THE LANCET.

LECTURES

ON THE

ANATOMY, PHYSIOLOGY, AND DISEASES

OF THE EYE,

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Lecture XXVII.

On Cataract. 705. 787.

Gentlemen,

Cataract is a partial or general opacity of the crystalline lens, of the membranous capsule that includes it, or of the fluid that surrounds the lens within the capsule, with a corresponding diminution of sight. These parts may be separately affected; or, as more frequently happens, the change may affect them altogether. Beer includes, in his definition of cataract, all those impediments to vision, which are situated between the uvea and the front of the vitreous humour, whether arising from opacity of the lens, its capsule, or the liquor Morgagni; or from the effusion of lymph under the inflammatory condition of the iris, and its subsequent organization into an adventitious membrane, from the effusion of blood or pus, or from depositions of the colouring matter of the uvea upon the capsule; then he divides cataracts into *true* and *spurious*. Under the former head are comprised the opacities of the lens, capsule, and liquor Morgagni; while the latter comprehends all the others, which he has named *cataracta lymphatica, purulenta, grumosa,* and *dendritica*. Under the latter name, or those of cataracta *arborescens* or *choroidalis*, has been designated the deposition of the colouring substance from the uvea upon the front of the crystalline capsule.

Such are the species of what Beer calls false cataracts; but I shall not adopt this arrangement, and shall limit the term cataract to express the opaque condition of the lens, its capsule, and the Morgagnian fluid.

The most striking circumstances observable in cataract are, an opaque body placed behind, or even filling up the pupil, and the impaired state of vision, which is the result of that change. In both these respects it agrees, in its incipient stage, with glaucoma and some forms of amaurosis; but as the treatment is essentially different in these several affections, it is very necessary to discriminate them accurately. In incipient cataract, we can do little or nothing; we must wait until the opacity has become complete, before we perform an operation; but, in the early state of amaurosis, we must take means to arrest the affection; for, if we should leave the case to itself under the supposition of its being cataract, loss of sight would be inevitable and irremediable.

The diagnosis of cataract from other affections is therefore a very important subject; and in doubtful cases, we shall be much assisted by the influence which the belladonna has in dilating the pupil. In such cases, therefore, this ought not to be neglected, and we should examine the eye under the full influence of that vegetable, so that we may obtain as clear a view as possible of what lies behind the pupil.

Cataract is usually developed slowly, requiring some weeks, months, or years for its complete formation; it may, however, come on much more quickly. It seldom destroys sight completely, even in its most perfect state. In many forms of cataract considerable degree of vision remains; and generally, in the worst cases, the patients can distinguish light from dark, if the retina be sound.

The colour of the opacity in cataract may be described as grey, passing on one side into a bluish white, and on the other into a yellowish brown, or the colour of amber. The opacity of the pupil in

Green Lect vol i. 595
Conjenital i. 610

glaucoma is green, a dull dirty green or yellowish green. Incipient cataract sometimes exhibits a very similar tint, so that the mere circumstance of colour is not sufficient to establish the diagnosis between the two affections; the situation of the opacity is a better ground of distinction; in cataract it is very near the pupil, and in many instances immediately behind that aperture; but in glaucoma and amaurosis, the discoloration of the pupil is much deeper seated, it looks as if it were at the back of the eye. Hence, when you view the eye laterally in glaucoma, you cannot perceive any opacity; it is only when you look directly into the pupil that you can see the discolouration, which also is equally diffused, the pupil appearing uniformly opaque, and occasionally the opacity appears concave.

In cataract the opacity begins generally in the centre of the pupil, and extends to the circumference; consequently, it is more dense in the centre and less so toward the sides. Hence some light passes through the circumference of the pupil, enabling the patient to see objects laterally when he cannot see them directly in front of the eye. Dilatation of the pupil, by exposing the margin of the lens, which is sometimes transparent when the centre is opaque, and at all events is much thinner, and therefore less densely opaque, improves vision considerably, especially in incipient lenticular cataract. Such patients see best in the dusk or twilight, or when the pupil has been artificially dilated by the belladonna. They see best when their back is turned toward the window. These circumstances particularly distinguish cases of cataract from those of glaucoma and amaurosis; for in the latter affections, the sensibility of the retina being impaired, the individual sees better in strong lights, his sight is not improved by belladonna, and he sees better when looking towards the window than when his back is turned to it. These differences are very characteristic, and often sufficient of themselves to establish the diagnosis.

The mode in which vision is impaired by opacity of the lens is this: objects appear as if surrounded by a mist or fog at the commencement; the patient fancies that there is something interposed between his eye and the object at which he is looking, whilst haziness or cloudiness increases gradually in proportion to the degree of opacity; the various modes in which sight suffers in amaurosis have been already particularized. A cataract patient sees a lighted candle as if it were involved in a cloud, which becomes thicker as the opacity proceeds, and ultimately shrouds the flame so completely, that its position only is discernible; to an amaurotic patient, the flame of a candle would appear as if scattered into rays like a star, or surrounded by a halo, or confused with prismatic colours. The sight is impaired in cataract in proportion to the degree of the opacity; but there is no such direct ratio in glaucoma and amaurosis; for, with only a slight greenish discolouration of the pupil, you may have a considerably impaired state of vision, such as the opacity would not account for; indeed sight may be entirely destroyed when there is only a slight discolouration of the pupil.

The iris and figure of the pupil are not affected by cataract in a general way, at any rate not in the early period of its formation: the iris continues to move as usual; the pupil retains its natural figure; in fact, the iris and pupil may be said to exhibit no particular alteration, especially in the commencement of cataract. In some cases there is increase in the bulk of the lens, which causes it to press upon and rather protrude the iris, and of course must impede its motions. The changes of the pupil and iris in amaurosis, which have been already described, form a very striking point of distinction. It must be observed, however, that the pupil presents a black margin in cases of cataract; and that I believe is to be explained by the circumstance of the white or greyish white ground, which the opaque body furnishes behind the pupil. The margin of the aperture is black, being formed by the uvea; but, as the pupil still is black in the natural state, we do not observe this black edge until some light-coloured substance is placed behind it.

There are numerous sorts of cataract; different species more or less distinguishable from each other. Cataracts vary in the seat, the colour, and consistence of the opacity; in complication with affections of the eye, or system, and in the age of the individual. The difference of seat forms a natural basis of arrangement, in conformity with which, we may distinguish them into the *lenticular*, the *capsular*, the *Morgagnian*, and the *capsulo-lenticular*. The most frequent species of lenticular cataract is that called *hard* or *firm; cataracta dura vel tenax*. In this state of the lens, the opacity has a greyish appearance, with more or less of the yellowish brown or amber tint toward the centre. In the firm and darker coloured portion, it resembles wax in consistence, slightly softened by heat; the circumference is lighter coloured, and softer, being about the consistence of soft jelly. The more you see of the amber co-

lour, and the deeper the tint, the harder is the cataract; the greyer its appearance, the softer is the consistence. Now what is called a hard cataract, is not in general hard throughout; the healthy lens differs in consistence, the circumference being much softer than the centre, and so it is with the opaque crystalline; the central portion is more firm than the rest. A greyish matter occupies the external parts of the lens, while the centre, or nucleus, is of a yellowish colour, and much more firm. Sometimes this brownish tint occupies the whole of the pupil; and the colour of the lens has even been found of a rather dark brown, like the husk of the chestnut, or dark mahogany; and in these cases it is hard throughout; they are not, however, very common. An ordinary firm cataract when extracted, presents the consistency and hardness of wax. I have never had an opportunity of seeing a cataract of a darker colour than mahogany, but Wenzel and Beer speak of *black* cataracts; if they mean cataracts literally black, I have never seen any such. The lens may be converted into an osseous or cretaceous substance, but such a case is very uncommon, and can hardly be said to come within the general description of the complaint; such changes have hardly been found, except when the eye has been completely disorganized. It is at all events very rare to meet with osseous or cretaceous substance in the lens.

The common firm cataract, which I have now spoken of, presenting the amber tint in the middle, gradually shaded off into a grey, is the ordinary form of the complaint in elderly persons. The lens is generally smaller than natural, and the capsule being unaffected, the opaque body appears at a small distance behind the pupil. There is a marked interval between that aperture and the cataract; the iris has its full play, and the patient retains the power of distinguishing objects during the formation of the cataract, by the passage of light through the less opaque circumference of the lens.

There is sometimes a hard nucleus with a decidedly soft circumference, indeed so soft as almost to be fluid, and that form of cataract has been called *cataracta fluido-dura*.

Lenticular cataracts have sometimes a *radiated appearance*, the opacity appearing in streaks or radii, the intervals between them being transparent. Those radii generally begin in the circumference of the lens; a circumstance which forms a striking contrast to the former species, in which the opacity first appears in the centre. In the ordinary state of the pupil, you can hardly see the radiated opacity, because the centre remains transparent; it is not until you have dilated the pupil by belladonna, that you can detect the opaque streaks in the circumference of the lens. These cataracts are very slow in their progress, occupying two or more years in rendering the whole of the lens opaque. I have known instances in which very little change has taken place in the lens in three years. There are some radiated lenticular cataracts, in which the radii are most distinguished toward the centre of the lens.

Another species is the *soft cataract*; not soft in the circumference only, but the whole texture of the lens is changed, having various degrees of consistence. In point of firmness, the cataract may resemble cheese, (*cataracta caseosa*,) or jelly, (*cataracta gelatinosa*,) or milk (*cataracta lactea*). There are all degrees of consistence, from the hard to the fluid cataract. These soft cataracts are larger than the hard; they occupy a much greater space, so that they push against the iris, protrude it and make its anterior surface convex. The soft cataract is distinguished by a bluish kind of white; the opacity is not uniform, but has a clouded or smoky appearance, and is equally diffused throughout the lens, the whole pupil being of a bluish or milky white. In the commencement of this kind of cataract, there is a partial reflection of light from the central or posterior part of the lens, producing a partial yellowish and almost shining metallic appearance, varying in apparent position as the light and the eye change their relative places. As the cataract is large, the opacity extends uniformly, to the circumference of the crystalline; it intercepts the light more completely than the hard cataract does; and the patient at last retains merely the power of distinguishing light from darkness.

The *opacity* of the lens is sometimes *partial*, being in the form of a central white spot, like a pin's head; or it may occupy a larger portion of the centre, as one third or two thirds of the diameter, leaving the circumference transparent. This partial opacity is only known as a form of congenital cataract. In such cases the patient may see perfectly with the pupil dilated, so as to denude the transparent part of the lens; while he will be blind in a strong light, the pupil then being so contracted as to be completely obstructed by the central opacity.

Opacity of the small portion of fluid situated between the lens and its capsule,

has been called *cataracta morgagniana*; but I doubt the separate existence of this as a distinct species of cataract. How could we determine that this fluid was opaque, and the lens transparent? Can you suppose that it could undergo this change, and the capsule and lens remain transparent? I think, therefore, that in a practical consideration of the subject, this kind of cataract might be safely omitted.

Capsular cataracts (*cataracta membranacea*). These have been divided into the *anterior* and *posterior*, in which the front or back of the capsule alone is affected, and in which the whole capsule is opaque. The capsule of the lens is very different in texture from the lens itself, and therefore you may suppose that an opacity of the capsule will present different appearances from that of the lens. The former does not begin in the centre, but in all parts of the membrane indifferently; it is not uniform, but in spots or streaks, with less opaque or transparent intervals. These opaque portions have a glistening white or bluish white appearance, the dense structure of the capsule giving quite a different character to the opacity from the jelly-like substance of the lens. The position of the capsule distinguishes it sufficiently from an opaque lens; the latter is situated at a little distance behind the pupil; there is a recognizable interval between them; but the anterior capsular cataract is on a level with the pupillary margin of the iris, and you may see that the opacity comes as far forward as the edge of the pupil itself, sometimes passing into the aperture. The capsule cannot become extensively opaque, without the lens also being affected, and when the anterior portion of the membrane is affected, we shall find the lens also opaque. We may have a single streak of opacity in the capsule after iritis; but that will not constitute a cataract: the capsule may be more extensively but yet partially covered by a new adventitious membrane, the rest remaining clear. We do not know any such case as a capsule generally opaque, containing a transparent lens.

The posterior part of the capsule may become opaque, the anterior portion and the lens remaining transparent; in this case you have an opacity situated at a marked distance behind the pupil; its situation corresponds to the known position of the capsule. You may even perceive that it presents a concave surface, and this deep-seated concave opacity is in partial streaks, the intervals of which are transparent. The posterior capsular cataract has not that glistening white colour which distinguishes the anterior, because it is seen through the lens, and thus acquires a yellowish and rather dull appearance. This change in the capsule is followed by opacity of the lens; it may exist, however, a considerable time before the lens begins to lose its transparency. We have two patients attending the Infirmary at the present time, in whom posterior capsular cataracts may be very clearly seen, and it is a rare affection: one of these patients can see to read the large print of a bible, and when the pupil is dilated with belladonna, you can see distinctly the spaces between the opaque radii through which the light gains admission to the eye; of course, as the lens becomes opaque, vision is more affected.

The existence of *perfect capsular cataract* cannot be easily ascertained, for if the anterior position of the membrane be opaque, it will prevent us from knowing whether the posterior be so or not. With a slight opacity of the anterior, it may be practicable to see also the opaque posterior part of the capsule. But the lens will participate in the affection, and the case may be considered as a capsulo-lenticular cataract.

The capsulo-lenticular cataract, or the combined opacity of the capsule and lens, is a very frequent form of the complaint. Generally speaking, the lens in these cases is soft, and the capsule itself, having been the seat of disease, is more or less thickened and indurated by deposition of lymph. Hence the cataract is generally large, often pushing forwards the iris, and making it bulge against the cornea, so as to destroy for the time the anterior chamber. In these cases you have a combination of circumstances, which cannot fail to point out the nature of the cataract. You have the streaky appearance of the anterior portion of the capsule on a level with the edge of the pupil; and you see the opaque lens of a different tint through the less opaque portions of the capsule. As the lens is large, and as both it and the capsule are opaque, vision is completely lost, except the mere distinction of light from darkness. The motions of the iris are often impeded by the bulk and mechanical pressure of the cataract.

The various changes which the capsule undergoes, give to the capsulo-lenticular cataract numerous different appearances; and these have been named as if they were so many distinct species of cataract; there is the *c. marmoracea*, where the distribution of the opacity gives a marbled appearance; the *c. fenestrata*, with bars somewhat resembling those of a win-

dow; the *c. stellata*, the *c. punctata*, with spots of the capsule, and so on. In severe purulent ophthalmia, especially in children, the inflammation sometimes extends to the capsule of the lens and produces a single central opaque spot. There is a *c. dimidiata*, in which one half of the capsule is rendered opaque; the *c. trabecularis*, so named from the opacity stretching across the eye like a beam; the *c. pyramidalis*, in which a dense opaque mass of pyramidal figure projects into the pupil; and the *c. arida-siliquosa* of the German writers, which, being translated into English, would be the dry shelled cataract. It not uncommonly happens, that the lens begins to be lessened in bulk by a natural process of absorption; and in proportion as it shrinks, the capsule contracts upon it, and shrivels up. This shrunk capsule, which has a thickened and corrugated appearance, containing a diminished or small lens, is called the cataracta arida siliquosa, or the dry shelled cataract, although no cataract can be dry, in the proper sense of the term. In some instances, where the opaque state of the lens and capsule is combined with other affections of the eye, the latter not only shrinks up, but becomes detached from the ciliary body, so that a clear black margin surrounds it. In this state, it may oscillate backwards and forwards when the eye moves (*c. tremula*, or shaking cataract); it may even become quite loose, floating behind the iris, or passing into the anterior chamber (*c. natatilis*, or floating cataract). In the latter case there is generally a tremulous motion of the iris. Then there is a *cataracta gypsea* spoken of, or a change of the capsule into a kind of cretaceous substance; it forms a thin kind of shell, brittle, and of a yellowish hue. Such are the varieties of capsulo-lenticular cataracts. They arise from the partial and irregular distribution of the newly deposited substance which causes the opacity; from partial thickening of the membrane, or from adventitious external deposits on its surface during inflammation, becoming afterwards organized.

There are changes in the state of the lens, in which it loses its transparency, in consequence of internal disease, and presents appearances more or less similar to those I have already enumerated. The lens may be of a dull green, a yellowish green, or a brighter yellow colour; sometimes it is of a dirty white. All such cataracts are the consequences of internal disease of the organ, and in that respect are contra-distinguished from those changes in the lens and capsule which are not attended with other alterations of the eye.

In young persons, the cataract is almost invariably white or grey; generally of milky or bluish white tint. If you see a brownish or yellowish state of the lens in a young person, you may almost certainly ascribe it to internal disease of the eye; for example, to the commencement of the medullary fungus, although a similar colour in an old person would not indicate the existence of any such disease.

The varieties of cataract in point of consistence I have already hinted at, and you see that you may have every degree of firmness, from the stony, or cretaceous, to the milky.

Cataracts have been distinguished as *mature* and *immature*. The former term may be used when the change is fully developed, according to the nature of the case. This distinction, however, has been made chiefly in reference to the time for operating; and a common notion prevails, that the operation ought not to be done till the cataract is ripe. This opinion is not altogether unfounded; certain cataracts are the result, if not of inflammation, of congestion about the eye, and in these cases it is unfavourable to operate early. We should wait until the change has been completed, and until all symptoms of congestion are at an end.

When you consider that in some instances the cataract is so large as to push the iris forwards, it is not surprising that the pupil should occasionally become adherent, more particularly when we consider that inflammation and thickening of the capsule, and deposition of new matter upon it frequently take place. These adhesions probably never occur, except when the capsule is opaque. They may be partial or general.

You may have cataract combined with glaucoma; and this is a combination, of which you can hardly be aware, unless you have seen the case previously to the occurrence of the cataract. The vitreous humour is first affected, and the lens subsequently; but a careful examination of the history of the case will generally lead you to discover the previous existence of disease in the vitreous humour, and the retina. If the iris is altered in colour, if the pupil is dilated, and fixed in the dilated state, if the sight was lost with considerable head-ache, pain in the forehead, and if it was gone before the cataract formed, you may fairly infer that the eye is glaucomatous.

It is not uncommon to have cataract complicated with amaurosis: in these cases, the amaurosis will be indicated by

the complete state of blindness, by the patient not being able to discern light from darkness. This, however, is only seen in complete amaurosis: an imperfect degree of vision may remain, the sensibility of the retina being impaired, but not wholly destroyed. You must attend to the symptoms, under which the loss of sight has occurred, as well as to the present state of the eye. Simple cataract comes on without pain, while in amaurosis there is often considerable pain in the head, or neighbourhood of the eye, and generally more or less uneasiness. In cataract the iris has its natural power of motion; while in amaurosis the changes in the pupil take place imperfectly, or are suspended, and the opening itself is often dilated. A motionless state of the iris, therefore, would excite your suspicion, and lead you to examine the case minutely, if it should be observed where the cataract is not large, and the pupil unadherent. A dilated state of the opening would be an additional evidence of amaurotic affection. We shall generally derive assistance, in estimating the state of the retina, from comparing the two eyes. It seldom happens that both are affected in the same degree; the earlier stage in one eye may throw light on the more advanced complaint of the other.

All ages are subject to cataracts; children are even born with them, and they may occur at any age from infancy to the remotest period of life; perhaps elderly persons are most subject to the complaint, especially from fifty, sixty, or upwards. Cataracts are never hard in young persons; you will never meet with a hard lens below the age of puberty; they are not always hard in old persons; you may have soft cataracts in such, and you may have hard cataracts during the middle period of life.

Causes.—The well known effect of inflammation, in producing opacity of parts naturally transparent, would lead us to expect that inflammation is a common cause of cataract. In some instances it is obviously the result of inflammation; internal inflammation of the globe will produce opacity of the lens and capsule; arthritic inflammation of the posterior tunics will produce an opaque state of the lens. Wounds of the lens and capsule produce opacities of these parts, and as these wounds generally give rise to severe inflammation of the eye, it might be inferred that traumatic cataract might be traced to the inflammation produced by the wound. The opacity consequent on a wound may, however, occur without any evidence of inflammation. Capsular and soft cataracts often form in consequence of congestion in the organ, if they cannot be decidedly traced to an inflammatory action; their formation is attended, in many instances, with all those signs, which indicate an unusual determination of blood to the head, and general fulness of the system. We cannot, however, generalise the observation, and say that inflammation is invariably the cause of cataract; we cannot suppose that inflammation has produced the cataract which we see in new-born children. We see that cataracts are common in old persons of the most healthy constitution, in persons who are not sensible of any uneasiness in the organ, in whom there is not the least appearance of any vascular excitement or pain whatever. We cannot refer the change in that case to inflammation, and we must acknowledge that the cause has not hitherto been satisfactorily elucidated in such instances. In fact, the nutrition of the lens, the mode of its connexion with the surrounding parts in the eye, and its manner of growth are not understood. We find that the lens undergoes some change in age; its convexity is lessened, and it loses that clear transparency which distinguishes it in the early and middle periods of life. In respect, therefore, to many cases of cataract, the direct cause of that particular change in the lens is unknown—Neither do we know that any peculiar state of constitution is favourable to its development.

Treatment.—General or local measures may occasionally alleviate particular symptoms, or remove concomitant affections, but they have no influence whatever on the cataract—absolutely none. It may be asserted, without any qualification, that no external application nor internal medicines, can alter the condition of the opaque lens and capsule.—When lymph has been effused upon the capsule, as in iritis, its absorption may be effected, while it is still recent, by proper means; but what I am now speaking of, is the confirmed opacity of the capsule and lens constituting cataract, and I believe that no treatment whatever is capable of changing it. We must then come to the operation, as the only means of restoring vision to persons affected with cataract. However, as the state of the eye, in other respects, is so various, and as these several complications of cataract so materially influence the chances of success from operation, we must, in the first instance, inquire most carefully into all the particulars of the case, to ascertain whether complete or only partial success may be expected, or whether there is no reasonable prospect of benefit.

Prognosis.—The prognosis, as far as the operation goes, is completely favourable when the affection is confined to the lens or capsule; when the sensibility of the retina is undiminished; when the motions of the iris are unimpaired; when the constitution of the patient is sound, and the health is good at the time of operating; and when the patient is of a spare rather than a full habit. Under these circumstances we may say that the prognosis is completely favourable; that is, supposing the operator to understand the subject well, to select the kind of operation most suited to the particular species of cataract, and to possess sufficient manual dexterity for performing it in the most advantageous way. The prognosis will be particularly favourable in cases of congenital cataract, in those of young persons, (in whom, however, it seldom arises except in consequence of injuries,) and in ...e firm lenticular cataract of elderly persons. It is bad when the cataract is complicated with glaucoma or amaurosis; with a fluid state of the vitreous humour; with a varicose condition of the blood-vessels; with dropsy of the eye, or with a very contracted or closed pupil. Indeed some of these circumstances would form decided objections to the operation. It is also bad when the cataract has been preceded or accompanied by severe pains in the head, or in the eye, by muscæ volitantes, sparks or flashes of fire before the eye, as all these circumstances indicate affection of the nervous structure. The prognosis is doubtful when cataract is the result of internal inflammation of the eye, or of that vascular disturbance which comes under the head of congestion. The existence of considerable adhesions of the pupillary margin is also unfavourable, since the laceration and removal of the adhesions may excite inflammation in the iris and internal tunics, particularly in the gouty and arthritic individuals, in whom such adhesions are most frequent, and who are the most likely to suffer from inflammation after the operation. The prognosis is doubtful in cases of cataract affecting one eye, when the other is amaurotic or glaucomatous. If amaurosis or glaucoma should have occurred in one, there is great probability that the other may be affected in the same way. Before advising an operation in such a case, we should satisfy ourselves fully that the retina is sensible; we should very carefully prepare the patient for the operation, and speak doubtfully of the result. If the evidence respecting the sensibility of the retina be not clear, it is better not to advise an operation, but to put the patient in possession of the state of the case, and let him determine between submitting to blindness and trying the doubtful experiment of operation.

The probable result of the operation is in some measure influenced by the age of the patient; the younger the subject, the less probability is there of serious subsequent inflammation; hence congenital cases are particularly favourable. The middle age is the least favourable; during the active periods of life, the risk of inflammation is greater.

The result of the operation is so important to the patient, the question being whether by it he shall regain sight or not, that it may seriously involve the reputation of the operation. It is, therefore, necessary, that the most minute inquiry should be made into all the circumstances of the case, before the operation is undertaken; the history of the affection, the present state of the eye and of the patient's health, should be well considered before advising or attempting any operation. There are some cases, in which it is better for the patient to be content with even very imperfect vision, than to submit to an operation which may end in total blindness. The restorative powers are feeble in very old persons; in them, and in cases where the propriety of operating may be doubtful for other reasons, it is best to employ the palliative aid of belladonna, as long as it will procure any degree of useful vision. Do not therefore operate in such cases until the patient is quite blind; until his sight is in that state, in which the failure of the operation can make him no worse. We cannot lay down an uniform rule respecting the time of operating. In general we should wait until the patient is blind, understanding by that expression the loss of all useful vision. At all events, in doubtful cases, this rule is absolute. One exception may be mentioned, viz., where the cataract is mature in one eye and immature in the other. The former may be operated on so as to give the patient the use of that eye while the cataract is forming in the other.

Another question is, whether we should operate when the cataract is confined to one eye; the general rule has been not to do so. The objection to performing an operation, when the cataract is confined to one eye is, that the patient is no better off after than he was before, and that he runs a risk for no good purpose. It generally happens that the other eye becomes ultimately affected, and it will be time enough to operate when the disease shows itself in the other eye. It has been said, that the removal of the cataract,

when confined to one eye, will prevent its formation in the other. It would be difficult to prove the point; and there is certainly no proof of it hitherto before the public. Beer mentions, in an early work, that cataract will not come on in the second eye, if it be removed by operation when confined to one eye; but in his last great book, he adheres to the ordinary rule without even mentioning the other opinion. I consider that rule to be well founded, and act upon it generally. There may, however, be cases of exception; for instance, in young persons, especially females, where personal appearance may be materially affected by cataract in one eye. I have operated in some such cases, proceeding always with great caution both as to the kind of operation, and the circumstances under which I have done it.

LECTURES

ON THE

THEORY AND PRACTICE OF PHYSIC,

By DR. CLUTTERBUCK.

Theatre, General Dispensary, Aldersgate-street.

Lecture XXXVIII.

On Phthisis Pulmonalis, (called also Pulmonary Consumption and, vulgarly, Decline.)

The subject to which I am next to direct your attention, Gentlemen, is of considerable importance, whether we regard its frequency or its fatality, especially in this climate. It is not only a primary affection, and, as such, of very frequent occurrence; but arises also during the course of many other diseases, so as to be the immediate cause of death.

There are two ways in which diseases may be treated of, and each has its advantages. One is, to describe the obvious characters or symptoms, and from these to deduce the intrinsic nature or *proximate cause*, as it is called: the other mode is the reverse of this, that is, first to point out the nature of the disease, or the corporeal change in which it consists; and then, by way of illustration, to describe the various symptoms in the natural order in which they present themselves; showing thus the manner of their production, and consequently their relation to each other, and to the *proximate cause*. No the latter mode of prosecuting the inquiry is in general to be preferred, as the more scientific, and, I think, the more useful also; as it serves to impress the facts more strongly on the memory, by the aid of natural association. But then it is, of course, requisite that we should be acquainted with the intrinsic nature of a disease, so far, at least, as to enable us to assign its seat and general nature. If we have not this knowledge, as may be the case with regard to some diseases, then, of necessity, we are compelled to follow the other course. Now with respect to the disease under consideration, *phthisis pulmonalis*, or pulmonary consumption, we know enough of its nature to warrant our proceeding in the latter way; and therefore I shall at once proceed to give you a definition or general announcement of the disease, from which we may start, as from a fixed point, in detailing the history of the symptoms altogether.

Definition of phthisis pulmonalis. "A disorganized state of the lungs, the result of chronic, or slow-acting inflammation." In every genuine case of *phthisis*, the structure is morbidly changed; and that this is the consequence of preceding inflammation, may be admitted, I think, upon general principles. Inflammation is the great agent of destruction to the texture of the body; and I know of no case of *phthisis*, however mild and insidious in its approach and course, in which marks of existing topical inflammation in the chest are not present; while, in a great number of cases, the presence of inflammation of the most active kind, is too obvious to be questioned.

It may be objected to the opinion I have now stated, that there are some cases of *catarrh*, that is, of inflammation of the mucous membrane lining the air-passages, in which all the symptoms of *phthisis* take place, and go on to a fatal termination, without any actual disease in the lungs themselves, as ascertained by subsequent dissection. Now if this were true, it would undoubtedly render useless the definition I have given. But it is not conceivable that precisely the same train of symptoms should attend a diseased state of the mucous membrane, and one where the lungs are either in great part destroyed by ulceration, or rendered impervious to air through a great part of their substance, as is the case here. To believe this, would be as absurd as to suppose that "men could gather grapes from thorns, or figs from thistles." If diseases, so different as *catarrh* and *phthisis*, have been

confounded together, it only proves the want of sufficient discrimination in the observer. It is, perhaps, possible that catarrh may of itself prove fatal, and be attended with many of the symptoms of diseased lungs; such as cough, and *hectic fever*, followed by emaciation and general debility; and these may go on till the powers of life are worn out and exhausted; for such symptoms take place during the course of many protracted and incurable diseases, besides those mentioned. But there must doubtless be some effects produced by a disorganized state of lungs, which do not belong to a mere affection of the mucous membrane, and which a cautious and acute observer would be able to detect. I am inclined, therefore, to adhere to the definition I have given, and to consider *phthisis* as always depending upon a state of disorganization of the lungs themselves; and from this, all the essential symptoms may be rationally and easily deduced and understood.

When the lungs are examined after death in persons dying of *phthisis*, they are found variously disorganized. It is possible that one lung may be destroyed in great part by ulceration, so as to be rendered entirely useless, the other remaining unaffected; and persons have survived this, and recovered good general health, and lived for many years afterwards. But in almost all cases, both lungs are found diseased, though unequally so. In most cases, there is found ulceration more or less extensive, while in many parts not actually ulcerated, the structure is otherwise altered; there are found, for example, indurated knobs, termed *tubercles*, of various sizes, from that of a pea or pepper corn, to that of a walnut, or still larger. Several of these tubercles become conglomerated together, and suppurate; the matter formed, making its way, from time to time, into the bronchia, so as to be brought up by coughing. These partial suppurations take place in succession; and while they are forming, there is an increase of pain in the chest, and an aggravation of the febrile symptoms; the pain and fever again subsiding when the suppuration is complete. The temporary relief thus experienced, serves to keep alive hope in the patient's mind, and by which he is flattered to the last, although all the while his emaciation and general weakness are proceeding.

After what I have now said of the condition of the lungs in *phthisis*, you will not find it difficult, I think, to understand the symptoms and progress of the disease, and which I shall proceed to detail to you somewhat more minutely. The symptoms altogether are so numerous and various, as to require arrangement. They may be best divided into the *essential* and *accidental*. The *essential*, again, may be divided into the *local* and *general*. This is the order I now propose to follow:

Of the symptoms that are *essential* to *phthisis*, we may first speak of the *local* ones, those that arise immediately out of the affection of the lungs themselves. One of these is *pain in the chest*, and which is generally confined to one side. The pain in most cases is considerable, though liable to vary greatly from time to time; often it is very acute, though seldom for more than a few hours, or at most a day or two at a time. In some cases, however, there is no pain felt throughout the whole course of the disease; or it is so little, that the patient, from a propensity to conceal, even from himself, his real situation, will scarcely acknowledge it.

Difficulty of breathing is another of the *local* symptoms, very generally present. The breathing is commonly short and frequent, the lungs not being in a condition to admit the air in many parts, nor to allow of their being expanded. This is one of the signs the most to be relied upon; yet it takes place in very different degrees.

Coughing is a third symptom, which is very seldom wanting, though it differs greatly in point of severity at different times. Sometimes the cough is short and ineffective; at others, violent and long-continued, and attended with a hollow sound.

There is often no *expectoration* for a considerable part of the disease; but this symptom generally appears in the more advanced stages; and the fluid ejected is more or less puriform in appearance, and yellowish or greenish in colour, and often extremely fetid in smell, especially in a morning. The patient commonly suffers less pain, coughs less, and breathes more freely when lying on one side than on the other.

The *general disorder of system* is the consequence of the *pyrexia* or febrile action taking place, and which, as in other cases, is excited by the local disease, consisting, as it does, in inflammation. The febrile symptoms are somewhat different from those produced by recent and active inflammation, whether in the lungs or elsewhere; and in this case are termed *hectic fever*, which I must next describe to you.

Hectic fever is merely *symptomatic fever*, become *chronic*. The febrile symptoms, which at first, as in ordinary inflammation, are pretty constant, assume gradually a remittent form. There is chilliness, a kind of cold fit about noon;

and this, in an hour or two, is succeeded by a dry and hot skin, especially felt in the palms of the hands and soles of the feet, and the cheeks become flushed in circumscribed patches. The pulse is quick, small, and cord-like to the feel. The patient is restless during the early part of the night; and when he falls asleep, profuse sweats break out, and continue till morning. The heat of the body now declines, the pulse becomes less frequent and softer, and the patient continues tolerably comfortable during the early part of the day; except that he is feeble and dejected. The symptoms are again renewed about the same period, and follow a similar course. Sometimes the febrile paroxysm is unusually severe on one day, and much slighter the next; and so on, on the alternate days, giving the disease a *tertian* form, like that of an *intermittent*, with which it is liable to be confounded. The tongue, in this disease, is often much furred, but sometimes not so; it is then of a preternatural redness. The urine is high-coloured, and deposits copiously a lateritious or branny sediment; and its surface is covered with an oily film. Under these symptoms the strength declines, and the body gradually wastes till the highest degree of emaciation takes place. The *tunica adnata* of the eye becomes white or pearl like, the nails are incurvated, and the hair falls off. *Diarrhœa* now takes place, during which the *night-sweats* abate, but increase again as the *diarrhœa* ceases. Among the last symptoms, may be mentioned swelling of the ancles towards night, and sometimes a more general state of anasarca. *Boils* also, are apt to appear on the skin, in the latter stage of the disease.

The organs that supply the body with nourishment, as well as many others, often perform their functions well; the appetite, digestion, &c. remaining good to the last. This contributes much to the prolongation of the disease.

The febrile symptoms differ also greatly in degree, in different cases. In old people, who are not unfrequently the subject of *phthisis pulmonalis*, the general system suffers comparatively little; and in them the disease is always long protracted; so that they may die of some other disease accidentally arising. In infants, on the other hand, the febrile symptoms run high, and the disease is rapid in its progress; so that its duration may be pretty accurately judged of by the degree of *hectic fever* that attends it. When it arises in persons of naturally a slow pulse, it is less rapid in its course; because the attending fever is less. Such persons are less subject to fall into the disease than others, though they are by no means altogether exempt.

These are the chief symptoms, both local and general, that attend this formidable malady. There are some also that occur only accidentally or occasionally. One of these is *spitting of blood*. This may take place in different degrees, and so even as to endanger life, either by the quantity of blood lost, or by inducing suffocation. Either of these, however, is very rare; and in general the discharge of blood appears to give relief. In some cases, no blood at all is expectorated from first to last.

In many instances the voice is lost, or greatly weakened; and more or less of hoarseness generally attends.

Vomiting takes place in many phthisical patients, and that after almost every meal. It is needless to observe that, in such cases, the disease must the sooner prove fatal.

The *duration* of *phthisis* is very various. It may run its course, and prove fatal, in six or eight weeks, as in infants; or it may be protracted for years, as when it occurs in old subjects, who are otherwise in tolerable health. It depends greatly also upon the power of taking and digesting food.

Phthisis is sometimes suspended by other diseases. Thus I have seen this take place in a remarkable degree, from the occurrence of the itch. *Pregnancy*, likewise, has this effect; so much so, that the patient often makes great strides towards recovery, and appears to be getting well. *Change of season* also, as the approach of summer, is often attended with a favourable change of symptoms; but in a very advanced stage of the disease, hot weather appears to hasten the fatal event. In all these cases, however, the relief experienced is seldom more than temporary. In females, at a certain period of the disease, the *menses* cease; but merely, as it would seem, from the worn out state of the system; and I only mention it to guard you against the solicitations of the patient or her friends, who are generally very anxious that you should employ medicines for the purpose of restoring the discharge; though it is evident they can have no such effect, but may do harm.

Much difference of opinion exists, as to the *contagiousness* of *phthisis*. This very difference of opinion shews that, at all events, it must be a rare occurrence. The exceptions indeed are so numerous, as to render it the most probable opinion that the disease is not contagious; and this, I confess, is mine.

Causes. This disease consisting in inflammation of the lungs, it may be brought on by all the causes of inflammation, though it often arises imperceptibly, or without being noticed. Exposure to cold, injuries of the lungs, irritating matters inhaled in breathing, are among the most frequent. It follows also various other diseases, which may be considered to act as *exciting causes*; such are, common inflammation in the lungs, not wholly subdued; neglected catarrh; ulceration, or other cause of irritation about the larynx; any other disease attended with continued *pyrexia* or febrile action, this state appearing to give a disposition to slow inflammation in the lungs, that at length ends in change of structure.

Much depends upon *predisposition*, which appears to be induced by a variety of circumstances. *Phthisis* is very frequent in cold and variable climates, while it is comparatively rare in hot ones. It is more frequent between the ages of 15 and 35, than either before or after. The *predisposition* is evidently hereditary in many families, and is affected by corporeal figure; the tall and thin, and narrow-chested, and the deformed, being the most disposed. A great number of *phthisical* subjects exhibit marks of *scrofula* in their habit, or have done so at a former period. Hence *scrofula* is considered as a *predisposing cause*: though we do not know how this acts, unless by being attended with a general disposition to inflammation, and that of an indolent kind. This, in fact, is all we know of scrofula itself.

Prognosis. Common observation tells us, that this is, upon the whole, very unfavourable; yet the disease is not always or necessarily fatal. This it is right you should know, that you may not relax in your efforts to cure it. When it succeeds accidental injuries, or even when it follows abscess in the lungs, the consequence of acute inflammation, and where no predisposition, hereditary or otherwise, exists, the *prognosis* is more favourable. When the disease comes on slowly and insidiously, it generally proves fatal, however mild the symptoms may be.

However unsatisfactory the treatment of *phthisis* is, in a general way, it is still not to be neglected; for in a few instances, under favourable circumstances, and especially when in an early stage, the disease may be effectually removed; and where all hope of this is at an end, still much may be done in the way of palliation. As the disease consists in inflammation, we are to consider how we can best relieve this; and, to a greater or less extent, this may be generally done. The inflammation, however, exists under circumstances that are extremely unfavourable to its removal; it has been of long standing; is attended with more or less of disorganization in the parts affected; and the powers of the system are, in general, much reduced. These circumstances may exist to such a degree, as to preclude altogether the use of curative means; when we are of necessity confined to those that are merely palliative.

In the early stage of the disease, unless in habits otherwise much debilitated, it is right to attempt the cure by *bleeding*, that is, repeatedly, but to a small extent; taking, for example, from three to six ounces only at a time, according to the circumstances of the patient, and that at intervals of a few days; using at the same time the *digitalis*, in such quantities as will reduce the frequency of the pulse so as to bring it, if possible, rather below the healthy standard, where it should be kept. By these means, the pain in the chest is commonly relieved; the febrile symptoms, together with the night sweats, are diminished, and sometimes removed; the sleep becomes refreshing, and the appetite is restored; a general feeling of returning health and strength follows; and in a few instances, health is recovered. An event so favourable as this, is certainly rare; but I have seen it take place sufficiently often, to convince me of the utility of the practice. And even where it fails to cure, it almost invariably mitigates the patient's sufferings, and checks the progress of the disease, so as to contribute to the prolongation of life.

It is a peculiar advantage of this mode of treatment, that it allows of the patient taking food, even solid animal food, as his appetite demands; and that without quickening the pulse, heating him, or aggravating any of the symptoms; which is rarely the case under other treatment, the strictest abstinence being generally required, in order to restrain the *hectic* symptoms.

The rest of the treatment should be *antiphlogistic*. *Blistering*, or other means of *counter-irritation*, may be occasionally of service, to relieve pain; and the permanent use of them may even sometimes do good; but on many occasions they are hurtful, from the general irritation of system they occasion.

Now this simple plan of treatment, as far as medicine is concerned, is, I believe, all that is essential, or that can be useful, in the treatment of this disease. Many other remedies are, however, in use, and

have been recommended from time to time; but experience always proves their insufficiency. Such is the case with the *uva ursi*, the tar-vapour, the *hydrocyanic acid*, as well as many others. With respect to the latter substance, of late so much vaunted, I have often found it productive of much disorder in the system; such as nausea and vomiting; head-ache, and disordered brain; without finding it even a palliative for the disease.

When we have abandoned all hopes of cure, it is still of importance to palliate particular symptoms. The *cough* at times is so severe, as to call for opium to relieve it; but in general, opium does harm, by checking expectoration, and aggravating the febrile symptoms; while it cannot effectually remove the cough. Even in an advanced stage of the disease, when the pain in the chest is unusually severe, *bleeding* to a small extent, either general or local, may be usefully resorted to. The night sweats are sometimes abated by the diluted sulphuric acid, though at the hazard of inducing *diarrhœa*. This last symptom, (*diarrhœa*), which is one of the most distressing, requires for its relief, first, a small quantity of rhubarb, then opium, chalk, or other astringents. The extreme restlessness experienced towards the close of the disease, makes the use of opium almost indispensable.

More is to be expected perhaps from change of climate towards curing the disease, than from the use of medicine. To give it a fair chance of success, however, the removal to a warm climate should take place early, and the residence be long-continued, perhaps for two or three years. To attempt it when the malady is far advanced, is only to consign the patient to incalculable suffering and privation. A *sea voyage*, of itself, appears to have been sometimes beneficial.

As a substitute for change of climate, a removal from bleak and exposed situations, to one that is sheltered, is often of considerable advantage. It is said that consumption occurs far less frequently in low and marshy places, than in elevated regions. This fact will of course influence us in the choice of situation; but there are nevertheless exceptions. Some cases do better in town than in the country, and some in hilly countries than in valleys. This can only be learned by trial.

FOREIGN DEPARTMENT.

PHYSIOLOGY.

Reproduction of Bone.

Whilst in England, Italy, and principally France, the re-production of bone was made the subject of investigation, little since the time of Köhler had been done in Germany to advance this interesting subject. In 1823, two young physiologists, Meding and Kortum, entered on this field of inquiry, and by a series of experiments placed beyond all doubt the process by which the re-production of bone takes place. We will give an account of their experiments in our next Number, but have thought it best to precede them by a brief statement of what others had before done in the same subject. Our information is taken from a work by Dr. Richter of Berlin, on necrosis, the substance of which work previously appeared in the 7th and 8th volumes of Gräfe's and Walther's Journal.

Towards the middle of the last century the experiments of Duhamel* on the formation and re-formation of bone, excited the greatest attention. The opinion of Galen,† which had reigned for many hundred years, namely, that the newly formed osseous substance was inorganic, and quite different from the original bony matter, was overturned. The favourite opinion with regard to the original formation of bone arising by lamellæ from the inner surface of the periosteum, was also entertained respecting its regeneration. Consequently Duhamel has the merit of bringing into notice this opinion, which till very lately almost universally prevailed. As Haller,‡ however, entertained views different in many respects from those of Duhamel, he instituted a new set of experiments along with Detlef,

* Memoires de l' Academie Royal des Sciences, 1747.

† De Meth. Medendi, Lib. v. cap. 7.

‡ Opera Minora Laus, 1761. Tom. ii. 460, 588.

the results of which were in favour of the correctness of his previous notions, and against those of Duhamel. These experiments led the attention of these two physiologists to the process which nature employed in cases of fractures. No one, however, pursued this further; no one thought of observing whether the same phenomena were to be seen in necrosis artificially produced, until Troja* began to turn his attention to the subject. His new ideas completely destroyed the notion of Duhamel.

Troja destroyed the marrow in eleven pigeons and dogs, and in this way proved the importance of this part for supporting the life of the bone. The centre of the canal died away as far distant as the destruction reached. As soon as the seventh day, these parts were frequently covered with new bone, to which the muscles and other soft parts had fixed themselves.† After this operation the shin bone began to swell, as well as the periosteum to thicken. On careful dissection, a jelly-like substance appeared to him to be poured out in the parenchyma of this covering, which had numerous vessels running through it, representing the form of the new bone.‡ On the third day the mass began to assume a bony consistence. From the fifth to the tenth in the pigeons, and from the eighth to the twelfth in dogs, the structure of the bone was apparent, and presented internally a thin fine vascular membrane. The epiphyses of the medullary canal of the dead tibia were entire, separated from the necrotic portion, and united with the newly-formed diaphysis. Besides numerous smaller holes for the passage of the principal nutritious vessels, Troja remarked others which he named "great;" and the development of which he could not explain.§ To learn what changes would result when the periosteum was injured, he destroyed this membrane completely round to the extent of four lines, and above this place detached the soft parts from the bones. In eighteen days he examined the tibia of the pigeons, and found that when the soft parts had been separated from the periosteum by an intervening substance, a new matter surrounded the bone, and that where the periosteum had been completely removed, the external surface of the bone was black and dry, and contained in it a new bone, probably from the medullary matter.

Troja from these experiments considered himself entitled to conclude that there was poured out between the two lamellæ of the periosteum a fluid resembling jelly. That this substance kept the two membranes separate, and that it became first cartilaginous, and afterwards osseous; and that the membrane which surrounded the inner surface of the new-formed part and the dead portion like a capsule, is the inner lamella of the periosteum, although in structure it is very different from the external lamella.

In a supplement* to his first treatise, he confirmed his former experiments by several new ones made on dogs.

This opinion of Troja on the production of bone by the swelling and ossification of the periosteum, prevailed for several years. Brun would not adopt this view, and declared it to be erroneous, on which account David felt himself called on by his experience on necrosis to support Troja, and refute Brun's opinion. According to David, the periosteum becomes inflamed, a puriform matter is thrown out between it and the bone, and separates them from each other. As the periosteum can no longer carry to the dead bone nutriment, it becomes overloaded with it, swells, thickens, and then gradually forms the body of new bone.† If the openings in the periosteum formed by the matter are too large, the new bone will be imperfectly formed, and the defect in the formation will be found to be in proportion to the extent of these openings. David, therefore, differed in so far from Troja, that he did not think the ossific matter deposited between the lamellæ of the periosteum, and that these were separated from one another, but that the periosteal covering itself becomes converted to bone. Chopart repeated also some of Troja's experiments, and coincided entirely with him, although the appearances were not uniformly the same. He thought, in addition, that when the bone was not destroyed in its whole circumference, but only in part, granulations sprung forth from the remaining living parts, which gradually ossified, and then repaired the loss. Richter‡ was also of Troja's opinion.

* Troja de novorum ossium in integris aut maximis ob morbos deperditionibus, &c. Paris, 1775. Strasburg, 1780.

† Ibidem, Tab. 1. Fig. 1.

‡ L. c. pag. 9, 11, 34, 40.

§ L. c. p. 39.

* De la Regeneration des Os, in the Histoire de la Societé Royale de Medicine. Paris, 1776.

† Observation sur une Maladie des Os connue sous le nom de Necrose. Paris, 1782.

‡ Chirurg. Biblioth. Bd. VI. s. 501.

Blumenbach* repeated Troja's experiments, and found on the destruction of the medullary canal the same results. In doves, on which he left the medulla unhurt, he observed that the cortical substance did not die, and no new cylinder of bone in the old one, but the bone was swollen, and in some degree united with the periosteum. Any sign of pain on the destruction of the medulla was not observed. Köhler† repeated the same experiments, and came to similar results. Brun‡ laid before the Academy of Sciences at Paris in 1781, his opinions, which being contrary to those of Troja, were warmly attacked by David. In his paper he observed, that on the destruction of the medulla, a part only of the bony substance was destroyed, and not the whole cortical part; a line of demarcation establishes itself between the inflamed part, the dead portion separates itself from this, and by the exuded nutritious matter a swelling was produced, an exostosis at the same time formed, which probably represented the regenerated part. This theory, by which a regeneration of the bone was denied, has been in general ascribed to Weidemann, who, however, did not originate it, but only afterwards adopted it. The opinion of Brun respecting the swelling of the cortical substance, and at the same time the denial of the reproduction of new bone, have been defended by several others, and are even at the present day received by many.

The greatest advantage for science was obtained in the last century from the labours of Macdonald,§ who by a series of interesting experiments, refuted the prevailing opinions on the reproduction of bone, and shewed, by close observation of nature, what a great similarity the process of regeneration had with the original or primary formation of bone. He gave madder to birds, destroyed the medulla, filled the canals with lint, and examined at different times the extremities of the pigeons and hens subjected to the experiment. On the second day after the operation, he found the periosteum inflamed in several parts, swollen and separated from the bone. On the third day a gelatinous fluid was observed thrown out between the two, even as far as the epiphyses; this had a reddish appearance, which, however, disappeared on separating one part of this fluid from the bone. On the fourth day, the inflamtion of the soft part had increased; the periosteum presented a cartilaginous appearance, which was given to it by the gelatinous and transparent mass. On endeavouring to separate the periosteum from this substance, he observed white threads, which he took for vessels, as they exhibited red points on being torn. The gelatinous mass stuck very close to the bone, and was in no respect separated from it by any membrane. Macdonald could not detect in the neighbourhood of the epiphyses, the slightest trace of a separation of the lamellæ of the periosteum. He found on the 7th day after the removal of the skin, the soft integuments and the periosteum, the internal soft and flexible bone already considerably coloured by the madder; this surrounded, and was firmly connected with the periosteum. In the fifth animal which he submitted to the experiment, and killed on the 11th day, (madder never having been given,) the new bone was farther advanced in its formation, being cellular, and of a firmer structure. After the 12th day, there was no separation of the dead from the new bone, which possessed a cellular, cartilaginous, and reddish appearance.

On the 15th day the new bone was completely formed, but still uneven, being thicker in some places than in others. After the third week the periosteum was no longer so considerably swollen, the newly-formed bone was overloaded with blood, and presented a cellular appearance. After the fourth week, the dead bone had already become very moveable and could be drawn out; it had no epiphyses, was rough, and thinner than usual. Ten days after the removal of the bone he killed the pigeon, and saw the central canal of the new bone filled with marrow; the internal membrane was very thin, and provided with several vessels; the new bone was hard, and presented the appearances above mentioned.

In order to ascertain by what process bone was reproduced, when the periosteum, after being destroyed, could contribute nothing to the reproduction, Macdonald instituted another series of experiments, in which he removed the periosteum from several portions of bone, brought together the integuments, and fed the animals with madder. On the

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* Richter's Chirurg. Biblioth. Bd. VI. st. I. 107.

† Experimenta circa regenerationem ossium. Gett. 1786.

‡ Histoire de la Société Royal de Medicine. Paris, 1781; Memoires de Toulouse, tom. i., pag. 65; and Dict. des Sciences Medicales, tom. xxxv., p. 356.

§ Dispnt. Inaguralis de Necrosi ac Callo. Edin. 1799, p. 39.

fifth day after this operation he found, after the removal of the muscles, the bone, in every place where the periosteum had been taken away, covered by a new membrane; on removing this, a gelatinous unseemly mass, united with the newly-formed periosteum, was to be seen. In a later examination, a quantity of vessels, in the gelatinous fluid, could be observed, and afterwards some dark spots, which marked the first traces of ossification. From these observations, and the examination of some specimens afforded him by Monro, Macdonald refuted the opinions of Troja, David, Blumenbach, Köhler, and Russel, and believed that when the periosteum is preserved the formation of the bone proceeds from the gelatinous mass, as, according to Haller, the primitive formation of bone always takes place, and that this change of the shapeless mass proceeds from the vessels of this membrane. When, on the contrary, the periosteum has been injured, the divided vessels pour out blood, this coagulates, and after absorption of the red particles, the gelatinous mass is left, out of which the bone is afterwards formed. From various experiments he believes that the integrity of the periosteum is necessary to the reproduction of the periosteum, and that after its destruction the regeneration is more difficult and tedious. This opinion of Macdonald's, that the periosteum is throughout necessary to the production has since been denied by many. Cruveilhier,* who may be classed among the number, endeavoured to convince himself of the part the periosteum took in the regeneration of bone, and introduced foreign bodies between this membrane and the bone; these were always covered with a cartilaginous or osseous deposit: where there was no intervening body the separated periosteum adhered to the bone. Cruveilhier also destroyed the medulla, but did not experience the same results as Troja and others, for the bone swelled only to a certain extent, and did not become necrotic. After the space of some months the medulla was regenerated in rabbits; but if the medullary canal were filled with lint, a very considerable swelling followed, the bone died throughout its whole extent, and between it and the periosteum a gelatinous mass, which gradually underwent the same change as had been observed by Macdonald. In pigeons, he remarked that the deep layer of muscles, as well as the periosteum, was overloaded with this mass, which became converted first into cartilage and then into bone. Cruveilhier repeated the experiments also on dogs, and plugged up the medullary canal with lint; but all these animals died within the twelfth day, and on examination the periosteum was found separated, and a sanious matter between it and the bone, without the least trace of regeneration being observed.

Another opinion, differing in many respects from the preceding one, has been advanced by Troja, in his work entitled, *Osservazioni ed experimenti sulle ossa, (impressa nel* 1775 *e nel* 1779. *Napoli,* 1814, 8vo.)—The number of experiments of different kinds made by this physiologist on birds, rabbits, sheep, goats, and pigs, is very considerable. He has, however, recalled the erroneous opinion which he formed respecting the formation of the inner membrane in new bones, and acknowledged, in the second edition of his work,* that the existence of the periosteum was not absolutely necessary to the reparation of the dead by new bone. He says, sec. 132, " Nelle grande scoperture delle ossa, succeduta la squamazione, sorgono de' granellini carnei, capaci di coprire lo spazio scoperto." From numerous experiments, which he subsequently made, he became firmly convinced that, after the destruction of the marrow, the periosteum and the external lamella of the bone, which in the larger quadrupeds amount to about half a line in thickness, but in birds are scarcely perceptible, become inflamed, present an appearance of new vessels, and deposit on its inner surface a gelatinous mass, which goes over, first into the state of cartilage, then into that of bone. The thin, external, lamella of bone, which has remained entire, becomes softened by the inflammatory process, loses its phosphate of lime, and passes over into the state of membrane, in order to line the inner surface of the new bone. Troja also believed, that by the destruction of the periosteum, new bone forms itself in the medullary canal of the bone. As before in the destruction of the medulla the lamella of bone nearest to the periosteum is converted to the inner membrane of the new bone, so in this case the *inner* layer of bone, closest to the medullary lining, is converted into a membrane which afterwards becomes the periosteum of the new bone. The medulla, on the contrary, disappears, and from the vessels of its membrane a gelatinous fluid is thrown

* Essai sur l'Anatomie Pathologique. Paris, 1816.

* Experiment. sur la rigeneraz. delle ossa. Napoli, 1779.

out, which forms the basis of the new bone, always preserves a firmer consistence, exhibits afterwards true bony substance, and is supplied with a medullary canal.

Charmeil,* from observing the reproduction of dead bone where the periosteum was destroyed, instituted some experiments for the purpose of ascertaining by what process the bone is reproduced when the medulla is destroyed, and the periosteum removed at the same time. He tried this experiment on eight pigeons, and found, in a few hours afterwards, a very considerable inflammation of the neighbouring soft part, and of the epiphyses of the bones; the bone, deprived of its marrow and periosteum, was surrounded by a deposit of lymph, which soon acquired a yellowish, then a reddish appearance, going over to the state of cartilage, and, lastly, to that of bone. As the progress of ossification advanced, the inflammation and swelling of the limb decreased; and the new bone, which included the old, was, on the 90th day, sufficiently strong to allow the function of the limb to be performed. Internally the new bone was hollow, smooth, and lined with a membrane; the external surface presented an uneven and granular appearance, and was intimately connected with the muscles and tendons in the vicinity. Charmeil tried also other experiments, by which he found, that not only the soft part, but the bone itself contributed to the reproduction of the new ossific substance.

PATHOLOGY.

Case of a Woman bitten by a Mad Dog—Vesicles observed under the Tongue.†

The following case by Dr. Oppert, of Berlin, is interesting, inasmuch as it adds to the testimony already advanced in favour of exciting suppuration in parts bitten by a rabid animal, and maintaining it for some weeks, at least, after the injury.

Madame N., 29 years of age, of a weakly constitution, was on the 16th December, 1825, bitten on the ring finger of the right hand by a dog. Immediately afterwards, the dog was carried to the veterinary school (Berlin,) and died on the 18th December, with *all the symptoms of hydrophobia.* As the animal had shown no signs of this disease previous to being taken to the school, the medical attendant was not sent for till the 18th.

On examining the wound, there was found on the posterior surface of the first phalanx of the ring finger of the right hand, a bluish spot of the size and form of a shilling. There was no excoriation. In the middle, however, of this contusion, if it may be so called, there was a small point, similar to what might have been expected from the impression left by a pointed tooth. It was considered proper to take all the steps necessary to prevent an attack of hydrophobia. The spot was first of all scarified with a lancet, well rubbed with caustic, and afterwards covered over with pulvis cantharadin, and unguentum cantharidum.

After this had been done, the tongue of the patient was examined, and there was found, to the astonishment of the medical attendant, close to the frænum and the openings of the ducts of the sublingual glands, *two small vesicles* about the size of a poppy or millet seed, filled with a kind of lymph, similar, in short, to what Marochetti has described. They were contained in the small duplicature of the membrane which covers the mouth of the duct, under the tongue. A knitting pin was now made ret hot, and both these tumours were completely destroyed by the ferrum candens, a work of no small difficulty, as the patient was very restless during the operation. The nerva and radix genista tinctoriæ, in the form of a decoction, were given internally. The latter both as a gargle and internally, to the extent of several cupfuls daily. On the 19th, the cauterized part on the finger was covered with a scab; the inflammation extended all over the first phalanx of the fourth finger, produced much pain, extending as far up as the axilla. Want of sleep, weariness, loss of appetite, came on. The patient had flatulence and indigestion, after taking the decoction of the genista, but still continued to use it till the end of the fourth week. On the fourth or fifth day, suppuration came on after the scab had fallen off. The wound being much inflamed, and very painful, only unguent. basil. was applied as a dressing, unless it showed a disposition to heal, when the ung. cantharr. was again applied. In the 8th week the wound was closed, and in the 9th week, when this paper was written, no symptoms of hydrophobia had shown themselves.

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* Recherches sur les metastases suivies de nouvelles experiences sur la regeneration des Os. Metz. 1821.

†Hufeland's Journal der Practischen, Heilkunde, Mai, 1826.

Hydrophobia.

Huzart first made the observation, that horses, sheep, and cows, which had become mad from the bite of a rabid dog, did not possess the power of communicating the disease to other animals by bite, even if they laboured under hydrophobia in the highest degree.

Swelling of the Breasts.

The breasts of gipsies, whilst suckling, frequently swell to a size larger than the children themselves. They have this in common with the Egyptian and Ethiopians, particularly the women of Meroe, of whom Juvenal says,

"In Meroe crassa majorem infante mamillam."

Small Pox.

The first who introduced inoculation into Europe, was Immanuel Timonis, a Greek physician at Constantinople, who voluntarily communicated the art to the universities of Oxford and Padua, of which he was member.

SURGERY.

Dislocation of the Spine, with Fracture, cured by M. JULES CLOQUET*.

A mason, 45 years of age, of a strong constitution, fell from a house on a number of stones that had been huddled together, and was, in consequence, immediately deprived of his senses, and affected with complete paralysis of his lower extremities. Being removed to an hospital, and treated secundum artem, the sensibility of the limbs began speedily to reappear. His locomotive powers, however, remained suspended; the emission of his urine was made with difficulty, and he had obstinate constipation. These complaints were treated for a time by moxas, cupping glasses, canteries, and other remedies employed in these cases, without any decided advantage. After several months, however, he became certainly somewhat benefited. He was able to turn himself without assistance, raise his limbs a little, although with some difficulty. In this state he remained for several years, enjoying rather a good state of health. But having no means on which he could subsist, and being attacked with rheumatism and indigestion, he resolved to enter the Hospital of St. Louis. There he remained for five months, when he died of marasmus.

On examining the body, the inferior extremities were found to be very much wasted away. There was a slight inequality in the lumbar region. In the interior of the spinal canal, the second lumbar vertebra was found to be carried a little backwards, and to the right side, sliding on the third and carrying along with it the upper part of the chord. This vertebra, which had suffered the principal displacement, was found in the following state. The superior surface of the body was turned a little upwards and forwards, and to the left side. It remained united with the upper part of the column, and had very nearly the same direction. Its inferior surface turned downwards and backwards a little to the right side, rested partly on the transverse process and body of the following vertebra. The anterior surface was turned a little down, and to the right, corresponding to the exostosis that had been formed in front of the vertebra. Its posterior surface was turned backwards, and a little to the left, and superiorly would have obliterated the canal if it had not been broken, and thus cleft into two parts. The left extremity was directed towards the left side, a little downwards, and in front appeared as it it were crushed and fixed between the first and third lumbar vertebræ. Its right extremity was turned towards the right, and a little above and behind had nearly the same direction as the upper part of the column, while it passed over more than one half of the body of the inferior vertebra. The right lamina of this vertebra appeared to be broken, and united by an irregular callus, so as to be longer than in its natural state. The articulating processes of the left side had their usual relations, and appeared to be the fixed point on which the upper part of the spine had been moved from left to right. The articulating ones of the right side were destroyed, and separated as far as half an inch.

From this disposition of the osseous structure, it appears that the vertebral column had undergone certain very important changes. These parts were consolidated by a large exostosis that had

* Nouvelle Bibliotheque Medicale. Mai, 1826.

been formed in front of the body of the displaced vertebra, which commenced on the left side, and advanced to the inferior vertebra, where it was attached. These were also united by certain hard, fibrous, and irregular parts of new formation, which surrounded them completely, and extended to the pillars of the diaphragm. The lower portion of the spinal marrow was compressed, and the nerves arising from it compressed at their root, and diminished in size.

Mode of Operating for Cataract among the Indians.

A paper, by Mr. Breton, on the native operation for cataract, was read on Saturday, Feb. 5th, (of this year) before the Medical and Physical Society of Calcutta, of which the following is an abstract:—

The operation for cataract is very commonly practised by the Natives of Hindustan, both Mohammedans and Hindus, and with a degree of success that could scarcely be anticipated from the rudeness of the implements and the ignorance of the operators, who are utterly unacquainted with the anatomy of the eye. The Native mode of couching, differs in some respects from that which has been practised in Europe since the days of Pliny, and from that described after the Greek authorities by the Arabs. Mr. Breton, therefore, concurs with Dr. Scott, who has given some account of the operation in the Quarterly Journal of Science, in regarding it as of indigenous origin, and not borrowed from Grecian or Arabian Surgery. Instead of the couching needle in use with European practitioners, the native operator employs two instruments, a lancet and a needle; the first is used to perforate the coats of the eye, and to obviate the possibility of its penetrating too deeply, a guard of thread is bound round the blade at about 1-10th of an inch from the point. After the perforation is made, a kind of probe, or needle, is introduced to depress the lens; this instrument is about five inches long, of the size of a crow quill; the shaft is circular, diminishing in diameter to within about an inch of the point, when it becomes of a triangular shape, with blunt edges—the apex is also blunt; just above the triangular part thread is wound round it to prevent its passing too far. The needle is directed in the axis of the lens, and serves to depress it below the pupil: the eye-lids are then closed, the needle remaining in the eye, being supported by the sort of shoulder which it forms where expanding into a triangle, and resting on a dossil of lint placed on the cheek. After a short interval the eye is examined: if the lens has risen, it is again depressed; and this is repeated until the operator is satisfied that the depression has been effected: the needle is then withdrawn, and some slight precautions are taken against the inflammation that follows.

After being satisfied of the safety and efficacy of the operation, Mr. Breton intrusted its performance to several of his native pupils, who met with equal success. Above 100 cases were thus operated on by different hands, of which not above eight were considered as failures; a few instances occurred, in which the repetition was necessary, but in a less proportion than similar occurrences in Europe; neither does Mr. Breton think the subsequent inflammation more violent in general than it is where the cataract has been depressed by the most skilful of our own practitioners. On the whole he is disposed to conclude, that, although the native operation may not be equally successful with that of European surgery in the hands of eminent and practised operators, yet its simplicity, as well as efficacy, renders it worthy of adoption where the opportunities of practising with our own instruments have been comparatively rare, and less manual dexterity has been in consequence acquired.

We find that the second volume of the Society's proceedings was sent to the press in February last.

ERRATA in the last week's Foreign Department:—

Page 649, left hand side, line 7, the words "well," and "by means of the bladder," to be omitted.

Page 649, left hand side, lines 8 and 9, a *comma* should be placed after the words "accomplished" and "way."

Page 650, case 3, line 28, read *suppuration* for "separation."

Page 650, case 6, line 6, read *in* for "on."

THE LANCET.

London, Saturday, August 26, 1826.

In the Resolutions of the Committee of Surgeons which were forwarded to the Trustees of the Hunterian Collection, we find the following:—

"That the Museum should be open for four hours every day (Sunday excepted) in the winter months, and six hours in the summer months; and during these hours, that free admission be allowed to the Members of the College; to the Fellows, Licentiates, and Members of all other Colleges and Universities; to the Medical Officers of the Army and Navy; to those legally authorized to act as Apothecaries, and to all scientific foreigners; also that Medical Students and other persons should be admitted on presenting a letter of introduction from a Member of the College, or from a Fellow or Licentiate of the College of Physicians."

Which, in our opinion, is comprehensive, liberal, and in every way worthy of the cause in which the Committee are engaged. This Resolution, as stated in our last Number, was recognized and acted on by the Trustees, who consisted on the occasion in question of Lord St. Helens, Dr. Ramadge, Dr. Agar, and Sir Everard Home; thus, his Lordship being in the Chair, the acting Trustees were three Members of the Medical Profession, who, (unless his Lordship objected to take the sense of the Meeting on any Resolution,) had it in their power to carry any measure which was not in direct opposition to the regulations under which they act for the protection of the Museum.

The Resolution above quoted, recommends that Fellows, *Licentiates*, and Members of all other Colleges and Universities, shall have free access to the Museum; this is submitted to the *enlightened* consideration of a set of *Medical* Trustees (for from what we have already stated, Lord St. Helens is quite out of the question); and, gentle reader, pray mark their extreme professional liberality; see how kind-hearted, benevolent, and complimentary Messieurs Ramadge, Agar, and Home, can act towards their professional brethren! Mark this their reply to the above request on the part of the Committee:—

"*Resolved*—That on the days and during the hours when the Collection shall be open for inspection, persons be admitted on presenting a written introduction from a Member of the Royal College of Surgeons in London, or a *Fellow* of the College of Physicians in London."

Thus, these benevolent Gentlemen admit the Members of the College of Surgeons, whom they could not exclude; they admit *Fellows* of the College of Physicians in London, and permit them to introduce friends, at neither of which do we object, but they make no mention of the Fellows and Licentiates of the Edinburgh College of Physicians, the *Members* of the Edinburgh College of Surgeons, the Members, Fellows, and Licentiates of the Dublin Colleges, and, disgusting to relate—they make no mention, or what is worse, they *exclude* the Licentiates of *their own College*. The spirit which could have prompted this distinction, would be a disgrace to the meanest herd of journeymen cobblers. If the Licentiates be not men of scientific attainments, if they be not gentlemen of scholastic possessions, why did these *Fellows* grant them their licences? Are Drs. Clutterbuck, Armstrong, and a multitude of other Licentiates, less entitled to consideration and respect than nine-tenths of the miserable drivellers who constitute the *Fellows* of the College? and who, through their aristocratic connexions and the sycophancy of their President, are thrust into our Hospitals and crammed into all our public offices? It is an assertion often advanced in the best circles, that the Members of

the Medical Profession treat each other with greater illiberality than those of any other profession or even trade, and the conduct of Messieurs Home, Ramadge, and Agar towards their professional brethren on this occasion, furnishes a sad example of its truth. To *such* Trustees let the Committee of Surgeons make no more applications; let them bear in mind that the mismanagement of the Museum, when compared with the other mal-practices of the College Rulers, forms an almost imperceptible blot, it is nearly imperceivable from the glaring magnitude of their other crimes; for which let the Committee ever bear in mind there *is* and there *can* be, but one remedy, viz. a NEW CHARTER! and to obtain which there is but one method, viz. the interference of Parliament; wherefore we say, let them prepare with all possible dispatch their PETITION.

JOE BURNS, it is said, has a work in the press "*On the Efficacy of* MINT JULEP *in fractures of the Cranium*:" and the following article, extracted from his *preface*, has for some time past been circulated amongst his friends. It is evident that JOE has *ratted*.

"Nothing is more easy than to show that our Hospital system is fundamentally wrong, from the surgeon to the surgery man, and from the physician to the apothecary's apprentice. The manner in which the appointments is managed, is the most nefarious, and in utter violation of every principle of justice and common sense.

For example, an advertisement announces the resignation of a medical officer of some Hospital, (which, by the by, but too seldom happens,) and how do the rival candidates arm themselves for the contest? not by trying to outvie each other at a public disputation, nor even at an examination in a Committee-room; but by beating up the quarters of their brewers, their bakers, their tailors, and other tradesmen, and in proportion as the candidates or their friends have influence with this class of persons, or, in other words, have a good *city connexion*, so are they, according to the usual doctrine of chances, secure of the vacant post. Now, then, men who can know nothing of the real qualifications of the candidates, are the real electors of physicians and surgeons to public Hospitals; and what is the consequence? What we too often see—that ignorant pretenders exclude men of sound talent, to the great injury of science, and the great sacrifice of human life. But how is this to be prevented? Very easily. Let us follow good example wherever we find it, and be therefore content to learn from our neighbours. The medical officers of public institutions on the Continent, are chosen only after a strict examination, in which the merits of the rivals have been fairly investigated. A mode of procedure which effectually deters ignorant men from trusting to the numerical strength of their dependants, and excites well informed men to emulate each other in cultivating with increased ardour the great field of medical science. Some object must ever be kept in view; without it there will be no emulation, and without emulation little will be accomplished. What avails it to have examination for the junior ranks of the medical officers, if the selection of the higher be freed from all responsibility and legitimate competition. If the examination of the apothecaries be good; if the dressers can be shown, also, to be men fitted for their duties; what avails this, if the stupid relation of a cheesemonger be allowed to flourish his cane over their heads and dictate submission?

The Hospitals in this country, being for the most part the offspring of private benevolence, have an independent exist-

ence, and it would be impossible to bring them all under a general board of administration, like the civil Hospitals of Paris; but let *each* possess what ought to be possessed *in common*. Let every Hospital have such a board of administration as shall require from those desirous of filling any situation in the Institution, not titles and certificates, but such qualifications as shall in reality show them fitted for that to which they pretend. Let a Committee, composed of all the Medical Officers of a Hospital, be appointed to examine the candidates in the presence of all the Governors; let the questions and answers *be recorded*, and then let the election be made. No plan is more easy to adopt; no plan would be so productive of permanent good to the profession and to the public as this. If a precedent be wanted, take the Army Medical Board; for to the credit of the Army Medical Board be it spoken, the examinations there are more fair, independent, and effective, than any at the College of Physicians or Surgeons. In this way, then, ought the medical officers of our Hospital to be chosen.

There is a class of persons of considerable importance in a Hospital, although of very little out of it, viz. *dressers* and *house surgeons*; these are, for the time being, the assistant medical officers of the establishment, and as such, ought to be properly qualified; but that this unfortunately is seldom the case, our numerous reports from the Hospitals sufficiently prove. The preservation, or the destruction of life, often depends on the amount of intelligence possessed by a dresser or house surgeon; yet the most unlettered and uninitiated students are permitted to become both the one and the other. At all events such situations must be held by such men at the cost of a great amount of human suffering. Any young man, if he have temerity enough, can at any time pay the surgeon the fees, and so become dresser in a large Hospital; no matter whether he has completed an apprenticeship or not, the question is never asked, the money is pocketed, and the boy takes the box. How many a victim of this detestable cupidity have we seen? How many hours of needless agony has it not occasioned? Patients brought into the surgery with fractured limbs, have been rudely tumbled about by young men who had never before touched, and sometimes never before seen, a fracture. Often has that accident been mistaken for dislocation, and a powerful extension been made over and over again, until the dresser has exhausted his strength in tormenting the poor patient. Men wallowing on the floor of the surgery with the horrid pain of a distended bladder, have been kept in that state of suffering for hours by the fumbling of dressers, who never before took a catheter between their fingers; and we have seen others daily poking bougies into an irritable and inflamed urethra, for the sake of *practice*, or, as they were pleased to say, to cure a stricture! We have seen house surgeons put patients into hot baths, bleed, and nauseate to faintness, having mistaken enlarged glands in the groin for hernia; and we have seen hernia punctured for an enlarged gland! But it is unnecessary to detail all the horrid secrets of the charnel house, all the fatal deeds of such sanctioned ignorance. We could a tale unfold, whose lightest word would harrow up the soul and freeze the blood, but that the tale would lose its force by withholding that which an imperfect law compels us to withhold, namely, the names of the murderers; for these men deserve no better title, who, conscious of their ignorance, wantonly and premeditatedly sport with that frail thread which breaks too speedily. And shall this grievance go unredressed? Shall this system of

life-selling continue? It shall not. If those who now have it in their power do not put a stop to it, we will. We will tell them *how*; but if they *neglect to do it*, we will put the broad stamp of infamy on the foreheads of the miscreants, or turn them out, tarred and feathered, to an infuriated public.

Such disgrace may and *must be* expunged from the face of humanity. Before the surgeons of our hospitals are allowed to sell that influence which they have so unjustly acquired, let them be obliged to *examine strictly* the persons who are to be their representatives; let every surgeon do this, or what is better, let all the surgeons belonging to a hospital examine every young man who wishes to become a dresser, before he says whose dresser he wishes to be. Let him send a notification to the steward of the hospital that he wishes to become a dresser, and then let the examination be made in a *proper manner*; and if public, the better. We know that some surgeons have felt ashamed of the gross ignorance of their dressers, but have never dared to expose them. Give to such an examination, and such a mortification will be saved for the future.

The examples of the hospitals in Paris are worthy of imitation on this point also; before any pupils are permitted to touch a patient they must give some adequate proof that they know what they have to do. The dressers are then divided into two classes, the *eleves externes* and the *eleves internes*; the latter are chosen out of the former after they have been a year in attendance on the patients. For the election of the first, the eleves externes, a forum is formed, consisting of two physicians and three surgeons belonging to the hospitals. No man whose relation is a candidate is allowed to be on the jury. The students at this examination receive certain questions drawn *by lot*, which they have *immediately to answer*. These questions are confined to anatomy, physiology, and surgery. After this has been done, each candidate receives by lot a theme, on which he must deliver, within a certain time, a written dissertation, and return it with the usual forms observed in the prize questions. Each year, eighty new eleves are in this way chosen, and a like number leave the Hospital. Their duty is to attend the physician and surgeon, to visit the patients regularly every evening, and as often during the day as may be necessary to afford the assistance required; they have to dress the patients, to bleed, cup, bandage, &c. After having done this duty for a year, each externe is eligible as *interne*. The examination for this office is more severe than the preceding, but conducted in the same way. Each *eleve interne* has the inspection of about fifty patients, superintends the duties of the *externes*, keeps the necessary registers, collects the history of the cases, reports the state of the patient on the preceding evening to the physician or surgeon at the morning visit, is allowed to prescribe in urgent cases, and make the post-mortem examinations. Two of the internes remain day and night in the Hospital, in the *chambre de garde*, to receive accidents, and to attend to the casualties of the house, if the absence of any of their colleagues in the interior of the house should render it necessary. To render the attendance of these students regular, they are required to be *present* at every morning visit, and to answer to their names, which are regularly called over by the physician or surgeon of the ward.

This discipline we want in our Hospitals; and this method of securing sufficient qualifications from the principal and assistant medical officers would very soon prevent the recurrence of the disgraceful practices, which it is our painful duty so often to expose." Well said, Joe!

An Essay on Cupping, &c. &c. By CHARLES KENNEDY, Surgeon. Small 8vo. pp. 63. Jackson, Borough, 1826.

WE know not what can come in competition with Mr. Kennedy's essay and "patent cupping apparatus," which are put forward with such evident symptoms of innocent satisfaction, and which have merited the encomiums of so many of our contemporaries. Ede quid illum esse putes, gentle reader, who writes a book on the venerable art of cupping, and patents a cucurbitula? Both has Mr. Kennedy achieved, and we recommend him to follow them up by something on bed-pans and urinals, which are equally susceptible of improvement and equally worthy his attention with cupping glasses. No one but a bungling blockhead ever found the least difficulty in using the old glasses—the demurely meek, insipidly serene, and beautifully printed essay of Mr. Kennedy is, therefore, nothing short of a bonus to ignorance. His addition to the apparatus is a complete bagatelle, and perfectly unnecessary, and the whole a hot-bed production, auguring a very great anxiety to appear before the public in any thing but a professional garb. But we are not wont to censure people behind their backs, and so—hic adest Kennedy.

"During my acquaintance with the profession," says he, "I have too frequently had to regret the *inadequacy* of the instruments used in cupping, *to the advantages* that ought to have resulted from the remedy. I have often seen patients shrink from the operation, which was most desirable in their cases, and even when submitted to, found *myself*, with every precaution, at times *unable to perform it* without causing unnecessary pain and considerable apprehension"

Oh, ye gods! not perform a simple operation without causing "UNNECESSARY pain and considerable *apprehension!*" A very strange admission, truly! "*Unnecessary* pain," too! Only think of that, Mr. Josephus Burns, and tell us what quantum of pain the patient ought necessarily to suffer, in order to insure all the benefits to arise from being cupped? We always thought pain a misfortune, and never dreamed that Hygeia showed her kindness by vexing our repose. But so it seems; and now for *morceau* the second, which we should not have quoted, had not one of our contemporaries, (Copland, we believe,) called the author a "*scientific surgeon;*" and a scientific writer he is, most assuredly.

"In order to rarefy the air *in* the glass (p. 13,) so as to allow its drawing blood freely to the parts to be scarified, it was (and is even now) practised by *throwing* into it a piece of lighted tow or paper, or by introducing a torch for a few seconds," &c.

The tow or paper of the former method is "thrown upon the skin of the patient, and scorches him," and, according to Mr Kennedy, the torch is equally objectionable, but of this we are by no means persuaded; on the contrary, we are convinced, as we stated above, that he must be the veriest of bunglers who would dispense with that method to employ our author's which is as much a confession of want of tact, as to the operation in question, as the use of a ready reckoner is of ignorance of arithmetic; a sort of reading-easy, forsooth, or rather meant to be, and effectual obstacle to the attainmen of excellence. The rarefied air, or the glass "*drawing* blood," in the paragraph quoted above, is certainly a most exquisite proof of the author's sagacity—a figurative explanation of what he has seen, but does not understand, and not much calculated to give us any very exalted ideas of his philosophical acumen, for he has invested the cupping-glass, or the rarefied air, (it hardly appears which,) with a positive power. Ex nihilo nihil fit, is an old axiom; and empty space, or a vacuum, as it is termed, can neither "*draw* blood," nor have any quality, or produce any effect whatever;—"rarefied air," as far

as the operation of cupping is concerned, is equally powerless. An atmosphere, in proportion to its weight, brings the particles of fluids more nearly together—a "rarefied" atmosphere is balanced by the antagonizing repulsive force which exists between these particles, and which, in the event of a vacuum, becomes completely lord of the ascendant—under no control. The *rationale* of the process may be learned from a siphon or a pump; but it is by no means desirable, if it be possible, to have the glass perfectly void, (more especially if the part chosen be over bone and thinly covered, as the temples, &c.) since its rim or edge is apt to arrest or retard the retransmission of blood in the vessels upon which it presses, more firmly, of course, as the vacuum is the more complete. This circumstance often puzzles beginners. The glass is sometimes faulty, in having too narrow edges. The following is the description given by Mr. Kennedy of his glasses:—

"The principal difference in the patent cupping glass, is the screw attached to the top of the glass, and made air-tight by means of a piece of leather. To this screw is attached another, a little more than an inch long, at the end of which is a piece of sponge; this having been dipped in spirits of wine and the whole screwed into its proper place, is charged for the operation; and unless blood should be thrown into contact with the sponge (very likely to happen) there will be no further occasion during the operation to take off the screw."

He has also invented a graduated metallic receiver, ("the shape of the mouth is a semi-circle formed to receive that of the glass,") and as this may prevent the soiling of the linen, which occasionally happens, it may be deemed of service. We have only to observe, in conclusion, that Mr. Clark of Castle-street, has also suggested an "improvement" in the cupping glass. An elastic piece of silver, having a small wire to suspend the sponge proceeding from its centre, is placed in the glass, but as the principle is the same with our author's we may at once dismiss the subject. It seems that both inventions came out about the same time, and it were no wonder if the parties contend for the priority with greater warmth, than the adherents of Leibnitz and Newton did for the method of fluxions. Mr. Kennedy has favoured us with an opinion that certain diseases, such as apoplexy, and inflammations of various organs and tissues, "require the application of cupping glasses." He thus occupies about half the work, and concludes by an appendix on bleeding. If there be men in the profession, so ill-informed and bungling as he pretends, the book is admirably suited to them, and to such as are inclined to learn "a genteel business," as the newspapers have it, at a trifling expense, well worth the three and sixpence that it costs.

It appears that the West End Hospitals are getting into great repute in the north of Scotland, as well as in every other quarter.—A young gentleman who has received his *purely surgical education* at St. George's Hospital, addressed a letter to an uncle of his residing in the above neighbourhood, in which he stated he had been *studying* at St. George's Hospital, and that he had at length obtained his diploma from the College; the uncle replied, he was happy to learn that his nephew was well, but that he could not congratulate him on his professional honours: "your *diploma* from *that* College, is not worth a bawbee, and if you wish to succeed in this part of the country, *let me beseech you not to mention St. George's Hospital.* Oh! my dear boy, if you have obtained your surgery THERE, let me advise you to say nothing about it *here.*"

To the Editor of THE LANCET.

SIR,—With the view and probability of throwing some light upon the case reported in THE LANCET of last week, which you have denominated dysphagia, in the absence of symptoms more illustrative of the real nature of the disease, I beg to relate the following case, which recently occurred:

A shoemaker, named Singers, æt. 52, about nine months previous to his decease was attacked with dysphagia while at dinner; at that time he considered himself in state of tolerable health, although occasionally troubled with a slight cough and expectoration; from that period he was obliged to confine himself to what is called spoon victuals, the difficulty in deglutition remained stationary for nearly six months, when it became much worse, and obliged him to discontinue his avocation. I then saw him, and found that he could not swallow a small quantity of fluid without the greatest distress ensuing until he had rejected it. I passed a probang down the œsophagus, and was surprised at not discovering a stricture, but the instrument was constantly being embraced, as if from excessive irritability of this organ; it was therefore treated as spasmodic, 15 drops of laudanum and of liq. potassæ were prescribed to be taken every second hour, in cinnamon water, which was received into the stomach more readily than other fluids; blisters and leeches were repeatedly applied to the neck and to the chest. These means afforded relief during two months, being every now and then enabled to retain a teaspoonful of liquid which had been swallowed, but the quantity was not sufficient to prevent progressive emaciation; the pulse became quick and easily compressible, the skin cold and moist, there was considerable wheezing, cough and expectoration slight but constant; he had also had a pain in the sternum. When he rejected, the quantity was mostly three or four times as much as he had taken, showing it to be an action of the stomach and not of the œsophagus. It often occurred that a fluid was splashed up into the mouth when he was not drinking; he never vomited, for the muscles of the pharynx were in a highly irritable state, continually making involuntary efforts, either to suppress the liquid rising, or to swallow, on account of some morbid sensation. The muscles of the larynx were in a similar condition, frequently impeding respiration.

These symptoms induced me to conjecture that it was a disease of the par vagum. However, a fortnight before the patient died, a sudden change took place; the pulse became quick and wiry, the skin hot and dry, the tongue dry and brown, the head acutely painful, and pressure upon the gastric region for the first time produced violent pain, even the most gentle tap with the finger occasioned the whole frame to become convulsed. Neither leeches afforded any relief to his head, nor laudanum to his stomach; he rolled from side to side in agony, each day was expected to be his last, he was a complete skeleton, and evidently sinking; during the last stage of his complaint he ceased to return what he drank, although in swallowing he was convulsed, and dreaded the attempt; flatus was now expelled with the same influence upon the pharynx.

The post-mortem examination proved that he had scirrhosity of the cardiac orifice of the stomach, but without much contraction of this extremity of the œsophagus; that there was an abscess between the stomach and spleen, the walls of which being formed principally by a portion of the former, were thick and indurated, precisely like a vomica. The spleen itself was very soft, and apparently rotten; on the posterior side of the stomach, near the cardiac orifice, was a cancerous ulceration about the size of a shilling, through which the contents of this viscus had passed into the cavity of the abdomen; they were like coffee grounds, but of a darker colour; the edges of the ulcer were much thickened, the pylorus did not participate in the disease; the lungs presented no indication of having been affected, they were unusually light and delicate. The lining of the trachea was morbidly vascular, without ulceration. There can be little doubt that the wound through the stomach preceded the pyrexia in the relation of cause and effect, and explains why the fluids swallowed were not after this period returned; in fact, all the other symptoms are legitimately referrible to the same cause.

HENRY SEARLE.

To the Editor of THE LANCET.

SIR,—Will you do me the favour to publish in your widely-circulated Journal, the history of a case of ovarian dropsy, successfully treated lately under my care. Perhaps you will deem it more worthy of insertion, as in Dr. Johnson's Quarterly Journal for April, the critic, who reviews Dr. Ayre's excellent practical work on Dropsy, hesitated to admit the practica-

bility of removing ovarian dropsy by the plan laid down by Dr. A.

I remain,
Your obedient humble servant,
M. Jones Morgan,
Surgeon.

Corsham, Wilts, Aug. 11, 1826.

Sarah Cole, ætat. 22, (laundry maid in a gentleman's family in this neighbourhood,) of a sanguineous temperament, tall, and of a slender form, called to consult me on the 8th December, 1825.

I found her abdomen large, as at the ninth month of pregnancy. She informed me, that about the month of May, 1824, she felt a small swelling, nearly the size of a cocoa nut, in the right side of her belly, a little above the groin. It gradually increased in size, and at the expiration of twelve months the tumour was considerable, but still confined to the lower belly, and she was not yet larger round the waist. For the last seven or eight months, she has increased in size more rapidly, and now measures 40 inches in circumference. The integuments of the abdomen are extremely tense, and the fluctuation is as distinct as ever I felt it in ascites. Her general health is good, and the only inconvenience she feels is the large bulk of the abdomen. She has not hitherto consulted any medical man, nor taken medicine of any kind. I wish also to add, she is a very steady girl, and enjoys the good opinion of the very respectable family she lives with, and I have myself noticed her size for the greater part of the time she has been ailing, though I did not speak to her on the subject. The catamenia left her for the three first months of her attack, since which she has been perfectly regular. I bled her in the arm, and prescribed

℞ *Hydrarg. submuriatis*, gr. v.;
Cambogiæ pulveris, gr. iij.;
Scillæ rad. gr. ii. *Confect.* q. s. *ft. pil.* ij. *hord somni sumendæ.*

℞ *Potassæ supertartratis*, ʒij.;
Pulv. Jalapæ, gr. x.;
Pulv. zingib. gr. v. *M. ft. pulv. mane sumendus;*

after which she took the following daily until the 21st December:

℞ *Hydrarg. submur.* ϑ ss.;
Cambogiæ pulv. ϑ j.;
Pulv. scillæ, gr. xv.;
Pulv. digitalis, gr. viij. *M. ft. pil.* x. *sumat.* j. *nocte maneque.*

℞ *Potassæ supertart.* ʒij.;
Pulv. zingib. gr. vj. *ft. pulv. meridie sumendus.*

The medicines acted freely on the bowels, but without any decided diminution of the swelling.

Jan. 10, 1826. Directed her to take

℞ *Hydrarg. oxymuriatis*, gr. vi.;
Solve in spir. æther. nitric. ʒj.; add.
Tinct digitalis;
scillæ, a a. ʒss. *Misce capt. cochl. j. min. in cyatho infusi geniste bis quotidie.*

℞ *Potassæ supertart.* ʒij.;
Cambogiæ pulv. gr. iij.;
Pulv. scillæ, gr. iss.;
Pulv. jalapæ, gr. xv. *ft. pulv.* 4 *tis. aureris sumendus;*

and to rub over the abdomen a camphorated mercurial liniment every night and morning.

She continued these medicines long enough to give them a fair trial, and also to occasion a slight salivation, but still without any perceptible amendment.

On Wednesday, March 22. I consulted an eminent physician (Dr. Sainsbury) of this place, who directed her to be immediately bled in the arm to ʒ xvj., and to give her

℞ *Hydrarg. submuriatis*, gr. iv.;
Cambogiæ pulveris, gr. iij.;
Scillæ rad. pulv. gr. ii.;
Jalapæ rad. pulv. gr. xv.;
Ol. juniperi, gtt. ij. *Syrup.* q. s. *ft. pil.* vj. *capt.* iij. *hora somni et* ij. *mane sequenti.*

The pills made her very sick, and acted copiously on the bowels.

On Saturday, 25th, she was directed to be bled again to ʒ xvj., to take four of the cathartic pills every third morning.

℞ *Tinct scillæ:*
Tinct digitalis, a a ʒ iij.;
Spir. æther. nitrici, ʒvj. *Misce capt. cochl. j. minim. bis quotidie.*

On the following Tuesday morning (28th), she began to pass immense quantities of water, which continued until Thursday evening (30th), when she became as thin as ever, and has enjoyed excellent health and natural size to this day, 11th Aug. 1826.

To the Editor of The Lancet.

Sir,—You and your readers have of late been favoured with several communications on the subject of sloughing phagedena, and on the best application for arresting its progress. Amongst the different remedies that have been suggested, and illustrated by their effects, I think no allusion has been made to arsenic as an application in these formidable cases.

Since I left the London Hospitals, five years ago, I have seen but one serious instance of this complaint, which made gradual and most extensive progress under the diversified routine of all ordinary treatment, till a trial of Fowler's solution of arsenic was suggested, which, in the course of a very short time, arrested its progress most effectually. Pieces of lint, soaked in the arsenical solution, were laid upon the diseased part, which extended over the whole of the penis, encroaching on the pubes and scrotum, and allowed to remain for two hours; they were then removed, and the part covered with a common bread poultice; the dressings were changed twice in the twenty-four hours. In two days from the adoption of this plan the sloughs were thrown off, good pus was secreted, and healthy granulations formed; these cicatrized very kindly, and in the course of a short space of time this very formidable case terminated to the complete satisfaction of the surgeon, and with as much satisfaction to the patient as a man is capable of feeling who is deprived of *very nearly* the whole of the penis.

If you have a spare corner in one of your invaluable numbers, and think these few lines worthy to fill it, they are at your service.

I am, Sir,
Your most obedient servant,
W. J.

Huddersfield, Aug. 9, 1826.

HOSPITAL REPORTS.

GUY'S HOSPITAL.

EXTENSIVE DISEASE OF THE BONES OF THE CRANIUM.

F. N., ætat. 30, a married woman of unhealthy appearance, was admitted into the Hospital on Wednesday, June 7th, under the care of Mr. Key, on account of disease of the cranium. She stated, that in June 1825, she was a patient in this Hospital, under the care of Mr. Morgan, labouring at that time under pains in the limbs, with swellings on both shins, and also on the bones of each arm. She left the Hospital somewhat relieved, but with her constitution in a dreadfully shattered state, and the swellings, with the pains, soon after returned. A tumour formed on the upper part of the forehead, which gradually enlarged until it attained considerable size; in its progress very great pain was experienced; in the course of a few months it ulcerated and discharged a thin fluid.

On examining the head, there was found to be an ulcer over the upper part of the frontal bone of the size of the palm, and a portion of bone, to the same extent, dead, and apparently undergoing the process of separation. There was a distinct line of demarcation observable between the dead and living bone, and the portion of bone to some extent around this was softer than the remaining parts. The discharge was highly offensive. The poor woman was very much debilitated; the pulse quick, and exceedingly feeble. She was again and again questioned as to her having had syphilitic disease, but she obstinately denied having had any form of primary venereal disease, or that she had ever taken mercury so as to affect the mouth. Of course but little credit was given to this avowal; we endeavoured to ascertain what plan of treatment had been adopted whilst the patient was under the care of Mr. Morgan, but we could not find the name in the present ward book.

Mr. Key ordered linseed meal poultices to be applied over the head; the nitric acid julep to be taken as common drink, and *two grains of capsicum twice a day.*

This plan of treatment was pursued for upwards of a month; but little change at this period had taken place in the appearance of the local disease; nature appeared to be effecting an exfoliation of the diseased bone, but the process was exceedingly slow. The patient's health too at this time was suffering much.—(Such was the condition of this poor woman as copied from our report made on the 5th of July.)

July 15. A grain of opium ordered to be taken every night.

29. Two scruples of the extract of sarsaparilla in a wine glassful of the decoction to be taken three times a day; a grain of opium to be taken three times a day; the ulcer to be dressed with mercurial ointment and opium spread on lint.

Aug. 9. This poor woman became much worse on Monday evening, Aug. 7, complaining of excruciating pain in the head, and screaming out loudly in an incoherent manner. We learn from the nurse that for several days previously her intellects appeared to be affected. She expired at noon on the following day, (Tuesday) having had two convulsive fits a few hours before death.

Post-mortem Examination.

A very large portion of the os frontis, and a small part of the left parietal bone,

were found to be completely carious; there were numerous small openings through the diseased bone, so that it was somewhat singular that matter did not drop down on the dura mater; *on* the dura mater and over the longitudinal veins was a dark slough, of the size of a shilling; we say *on* the dura mater, because it appeared rather as an adventitious body than as a slough of that membrane itself. The internal parts of the brain presented no morbid appearances. There was slight recent inflammation of the pleura and a considerable effusion of serum into the abdomen.

Mr. Key admitted the following cases into the Hospital on Wednesday, July 19:

Males.—Inflammation of the testicle; stricture (2); abscess of the thigh; disease of the knee joint (2); abscess in the perineum; ulcer of the leg

Females.—Glandular tumour; cachectic ulceration; irritable bladder; injury to the neck; disease of the kneejoint (2); strumous ophthalmia; fistula in ano.

DISLOCATION OF THE SHOULDER JOINT.

During Mr. Key's admission week a poor man presented himself at the Hospital, who had dislocation of the humerus forwards, under the pectoral muscle; the bone had remained unreduced upwards of eleven weeks. The patient being of scrofulous diathesis and weak constitution, and as it would have been necessary to use much violence in reducing the bone, Mr. Key declined making any serious attempts at reduction; the poor man, therefore, went away unrelieved.

FRACTURE OF THE THIGH BONE.—PLAN OF TREATMENT RECOMMENDED BY SIR A. COOPER.

In going round the Hospital a few days since, Sir Astley Cooper was led to make some observations on the treatment of fractures of the thigh, and to recommend a plan which we consider as altogether novel. The reasons adduced by Sir Astley in its favour are certainly ingenious. In all cases of fracture of the os femoris, except when broken immediately above its condyles, Sir Astley Cooper observed that he considered the best plan of treatment was to place BOTH limbs on a double inclined plane. By thus keeping up extension from each limb, the pelvis is not brought lower on one side than another, which effect invariably takes place if the extension be made with *one* thigh only on the double inclined plane.

ST. THOMAS'S HOSPITAL.

CASE OF POPLITEAL ANEURISM—OPERATION OF TYING THE FEMORAL ARTERY, BY MR. TRAVERS.

S. H., a muscular man, of light complexion, and about 28 years of age, was admitted into the Hospital on Saturday, August 5, under the care of Mr. Travers, on account of a tumour in the right ham.

He stated that he had been a sailor for several years past, and that his habits of life were usually temperate. He acknowledged, however, that during the last twelve months he had indulged somewhat freely in the use of spirituous liquors; this arose from the circumstance of the ship in which he was engaged having been trading to Holland during that period, and consequently enabling the men to procure spirits at a cheap rate.

The first appearance of disease in the leg occurred in the latter part of the month of June, when the patient was at Hamburgh. The right leg then began to swell, more especially at the ancle, but without any accompanying pain. He shortly after returned to England, and although the leg continued tumid, it did not incapacitate him from pursuing his ordinary employment, and it was not until the 1st of August that he began to experience great pain in the ham, extending to the knee. At the same time also, he discovered a tumour in the popliteal space. Two days after he applied for relief as an out-patient at this Hospital, when some wiseacre (we cannot discover who) prescribed the application of leeches to the joint. Finding no relief, the poor man came to the Hospital again on Saturday, and being seen by Mr. Travers, was immediately admitted. On examination, there was found to be a tumour occupying the popliteal space, but apparently deeply situated, so as to require more than ordinary pressure to trace its boundaries; it was, however, well defined. Pulsation was very distinct over the whole extent of the tumour, and it was synchronous with the heart's beat; pressure on the femoral artery in the middle of the thigh, stayed the pulsatory motion of the tumour, and reduced its size about two-thirds, but the pulsation and size of the swelling speedily returned on removing the pressure. There was considerable tenderness of the part evinced by the patient when it was handled, and he complained of severe pain in the ham extending to the knee. It is worthy of remark, that when the circulation through the tumour was re-

strained by compressing the femoral artery, the pain immediately ceased, and as quickly returned when the blood was allowed to flow. The leg was swollen, and somewhat œdematous.

Mr. Travers having explained to the patient the nature of the disease, and the necessity of an operation for its cure, the poor man readily assented. In the mean time, as the pulse was strong and bounding, Mr. Travers thought it advisable to abstract blood, and he therefore directed sixteen ounces to be taken from the arm. Linen rags made wet with a spirituous lotion, to be constantly applied to the limb. The patient had been bled from the arm a few days before his admission into the Hospital, in consequence of his complaining of pain in the side.

Operation.—The operation was performed on Friday, August 11th, in Mr. Travers's usual manner; it was a sorry, haggling piece of business. The incision which was made through the integuments of the thigh was too low down, and instead of being carried in an oblique line from without inwards, was made nearly straight, and almost on the OUTER edge of the sartorius!! Although a *very free* incision was made through the skin (the *operator holding his scalpel perpendicularly,*) yet the cellular membrane beneath and fascia, were only divided to a small extent. The embarrassment, which was manifested in the remaining steps of the operation, almost baffles description. After a pretty considerable share of *grubbing*, first on the outer side of the sartorius, and then between the gracilis and triceps muscles, mistaking the adipose matter here for the sheath of the artery! PIONEER Travers, somewhat within the space of half an hour, succeeded in laying bare the vessel, and applying a ligature around it. When the PIONEER was in the act of grubbing on the triceps, he divided a large muscular branch of an artery; at this period Joseph Henry Green kindly interposed, and gave some directions which we could not precisely collect; we fancied, however, that we heard the words "operation" and "exploration."

FATAL CASE OF HÆMORRHAGE FROM THE BOWELS DURING THE PROGRESS OF FEVER.—PROPOSAL TO PERFORM THE OPERATION OF TRANSFUSION.

Esther Gibbons, ætat. 20, was admitted on the 20th of July, under the care of Dr. Scott. She had been ill eight days, with fever of a typhoid character. Dr. Elliotson, who saw the patient in the absence of his colleague, directed that the whole surface of the body should be washed with tepid water, and that fifteen grains of quicksilver, with chalk, should be given three times a day; strong beef tea and milk allowed as diet.

On the 23d, an astringent mixture was prescribed, and the application of eight leeches to the epigastrium.

25. The attention of Dr. Elliotson was called to the patient in consequence of two profuse hæmorrhages from the bowels, which occurred at an early hour this morning. It was considered that she had lost about four pints of blood. The time at which Dr. E. visited the patient, and learned this circumstance, was about half past twelve; he found her with a very feeble pulse, and ordered two table spoonfuls of wine to be given occasionally, and a grain of sulphate of copper, with a similar quantity of opium, to be taken every four hours. A large blister to be applied to the abdomen.

During the time Dr. Elliotson was going round the hospital, the symptoms became so alarming, that he was again requested to visit the poor girl; that was about an hour from the time of the first visit. The patient now appeared moribund, the extremities were cold, and she was covered with an universal clammy sweat; the heart very faintly performed its office, the pulse at the wrist was rapid and scarcely perceptible. There was also that extreme restlessness which is the immediate precursor of death.

Dr. Elliotson prescribed, *sixty drops of laudanum*, and *two drachms of the spirit of nitric æther*, to be exhibited in camphor julep, immediately. Bottles filled with hot water to be applied to the feet, and wine to be freely administered. These measures were complied with, under the immediate superintendence of the Doctor; finding, however, that the patient did not rally, and considering that her death would be fairly attributable to the loss of blood, Dr. Elliotson determined on performing the operation of transfusion, as a dernier resource. And the worthy Doctor volunteered his own blood on the occasion.

Some time, however, elapsed before the dresser of the week, whose duty it was to operate, could be found, and there was a further loss of time in procuring the apparatus. (We understand that Dr. Blundell was sent for, and requested to superintend the operation, but he was from home.) The patient at this time (half past two o'clock,) began to manifest symptoms of recovery, she was tranquil, and disposed to sleep, being apparently under the influence of the opium; the extremities had now become

somewhat warm, and the heart's action was less feeble. It must be observed, that the treatment prescribed above, had been very actively followed up, she was constantly plied with stimulants, and the external warmth frequently renewed.

Dr. Elliotson remained with the patient upwards of half an hour, and at the expiration of this period, she had very materially rallied. The cheeks and lips which were before bloodless, now began to assume their natural colour; she was sensible, and able to answer questions rationally.

Under these circumstances, Dr. Elliotson deemed the operation of transfusion to be unnecessary; he therefore left the patient, directing the wine to be repeated as often as necessary, and the æther and laudanum in the space of three hours, if required. Strong beef-tea to be freely administered.

26. The patient is exceedingly languid, but upon the whole, better than yesterday afternoon; the pulse 120, and small, countenance anxious, and features collapsed. She has passed one bloody stool during the night; the laudanum and æther were given last evening. Upwards of a pint of wine has been taken, also beef-tea and milk; Dr. Elliotson directed these to be continued, and one grain of sulphate of copper, with a grain of opium, to be given every six hours.

We regret to state, however, that on the following day, there was great prostation of strength, and the poor girl died in the evening.

The particulars of this case are entered at full length in Dr. Scott's book, by Dr. Elliotson, for the information of the pupils. We trust this will shame the former gentleman from his accustomed indolent method of noting cases, which consists in making a few short-hand characters, unintelligible to every one but himself. We have before had occasion to allude to this infamous circumstance, and also to *Dormouse* Williams' manner of noting cases; we selected the following a few days since from one of his books:—*Dolor abdominis—tussis*, dijectiones iij. *per diem—dolor lat, dex.—dolor stom.—Ægrotat. menses* iij.; *has eaten nothing for many weeks!!* These are notes of cases made by a hospital physician, and, forsooth, a lecturer on the practice of physic. We shall, ere long, take an opportunity of *showing up* this gentleman's mode of practice: a little *phlebotomising* may perhaps relieve that state of stupor under which this individual always appears to labour.

FUNGOID DISEASE OF THE BREAST.—EXTIRPATION OF THE MAMMA.

The subject of this disease, a stout woman, 63 years of age, of florid complexion, was admitted into the Hospital as a patient of Mr. Tyrrell, on Thursday, July 27th.

She stated that the disease under which she laboured had existed for two years, that it first made its appearance on the outer side of the right mamma, in the form of a small moveable tumour. This went on gradually increasing for about eighteen months; but during the space of six months prior to her admission, the swelling rapidly increased in size.

Although, as stated above, the patient was of florid complexion and healthy in appearance, yet her general health, she said, was by no means good, and she had been subject to repeated attacks of severe indisposition since the period at which she ceased to menstruate; this was at about the age of fifty.

The disease of the breast presented the following characters:—The mamma very much enlarged, and of an oblong form, its greatest diameter being from side to side. About four-fifths of the swelling, when pressed upon by the finger, were found to be very firm; a moderate degree of pressure occasioned an indentation, which, however, was speedily obliterated by the elasticity of the tumour when the pressure was removed. The swelling had an irregular uneven feel; handling it even roughly occasioned little or no pain, and the patient stated that she never had experienced much pain from the disease. The integuments on the right side of the breast were discoloured, and on examining the parts the minute cutaneous veins were found to be loaded; in addition to this, there were large sub-cutaneous veins meandering over the surface of the tumour. A considerable portion of the mammary gland, situated nearest to the sternum, had a natural and healthy feel; the nipple was not retracted, nor was there any glandular enlargement in the axilla.

Mr. Tyrrell having proposed to the poor woman an operation for the removal of the disease, to which she readily consented, it was performed on Friday, August 11th.

The whole of the mammary gland was removed, by making a transverse elliptical incision through the integuments above, and another beneath. These two incisions meeting at their extremities included the diseased mass, which was then dissected out. Several bleeding vessels were secured, and the integument

were then brought together in the usual manner.

A section was made of the tumour, and it was shewn to the pupils. It presented the ordinary characteristics of fungoid disease, but at the lower portion of the mass there were several hydatids.

In addition to the operation related above, as performed by Mr. Tyrrell, and one for popliteal aneurism by Mr. Travers on Friday, the latter removed a tumour on the same day from the leg of a female patient. It was a pendulous swelling of considerable size, attached to the inside of the calf of the leg, of twelve years standing, and had been for some time past in a state of ulceration. It was a common vascular sarcomatous tumour. Mr. Travers, with his choice phraseology, termed it *a skin tumour*.

The operation consisted simply in dissecting the tumour from its attachments at its base.

CASE OF PURULENT OPHTHALMIA, WITH SLOUGHING OF THE CORNEA.

Mary Ann Evans, ætat. 19, apparently in distressed circumstances, was admitted into the Hospital on Thursday, June 22d, on account of disease of the eyes.

She stated, that the left eye had been affected one month, and the right eye about a fortnight. The disease commenced with uneasy sensations in the parts, as heat and itching, which occasioned her to rub the eyes much; they soon after became greatly inflamed and painful to a most distressing degree. There was also intolerance of light, and a free discharge of purulent fluid from between the eye lids.

Notwithstanding the violent nature of the symptoms and the extreme state of suffering under which this young woman must necessarily have laboured, the disease was allowed to pursue its course without her seeking medical assistance.

The condition of the parts on the day after admission was as follows:—*Right eye:* The eye-lids (but more especially the upper) much swollen, and looking red externally; excessive vascularity of the tunica conjunctiva with chemosis; the cornea at its lower three fourths clear; but opaque, and of a whitish colour at its upper and outer part. The pupil of moderate size, having apparently some irregularity at its upper part, where faintly seen through the opaque portion of cornea.—*Left eye*: The conjunctiva highly injected, and thus rendered tumid, where covering the fore part of the eye, and also where lining the lids, with consequent swelling of these parts. The cornea of a dull clouded appearance throughout its whole extent; but towards the inner canthus of the eye, a considerable portion of the cornea was ash-coloured, and protruding through an opening in the centre of this deadened portion of cornea, was a small black tumour, supposed to be a part of the iris. The vision of each eye was greatly obscured, and there was a copious discharge of purulent fluid from between the lids. The patient complained of great pain and uneasiness in the parts, and there was considerable febrile excitement, with want of rest, loss of appetite, and the bowels constipated.

24. The patient was seen by Mr. Travers to-day, and the following plan of treatment was directed: *A blister to be applied to the nape of the neck, and two leeches to each temple.*

Sulphat of quinine, 2 *grains*;
Infusion of roses, 1½ *ounce*;

to be taken three times a-day. One grain of opium to be taken at bed-time, a dose of house physic immediately, and the following collyrium to be used:

Alum, 1½ *grain*;
Water, 1 *ounce*. Mix.

The patient was very minutely questioned by Mr. Travers, as to whether she had gonorrhœa, or any other vaginal discharge, but she declared she was perfectly free from disease of this nature. It appeared on further inquiry that she had been affected with itch some weeks before admission, but was cured before the attack of disease of the eyes.

(It may be proper to remark here, that the acute symptoms had in some measure subsided when the patient was admitted, and as Mr. Travers observed, the disease had already passed on to that stage which is termed *atonic*, and in which we have to contend with the consequences of acute inflammation.)

26. The eye-lids are swollen, there is now a prolapsus of the iris through the upper part of the cornea of the right eye and the prolapsus in the left eye has increased. The leeches, through the negligence of the nurse, have not been applied.

28. The prolapsus iridis in the right eye has increased since the last report; there is a small white line distinctly to be observed on the cornea, where surrounding the base of the protruded iris, and to this line red vessels may be seen passing. The lower portion of the right cornea is clear, and the pupillary margin of the iris seen through this part is regular.

In the left eye the prolapsus iridis has

somewhat warm, and the heart's action was less feeble. It must be observed, that the treatment prescribed above, had been very actively followed up, she was constantly plied with stimulants, and the external warmth frequently renewed.

Dr. Elliotson remained with the patient upwards of half an hour, and at the expiration of this period, she had very materially rallied. The cheeks and lips which were before bloodless, now began to assume their natural colour; she was sensible, and able to answer questions rationally.

Under these circumstances, Dr. Elliotson deemed the operation of transfusion to be unnecessary; he therefore left the patient, directing the wine to be repeated as often as necessary, and the æther and laudanum in the space of three hours, if required. Strong beef-tea to be freely administered.

26. The patient is exceedingly languid, but upon the whole, better than yesterday afternoon; the pulse 120, and small, countenance anxious, and features collapsed. She has passed one bloody stool during the night; the laudanum and æther were given last evening. Upwards of a pint of wine has been taken, also beef-tea and milk; Dr. Elliotson directed these to be continued, and one grain of sulphate of copper, with a grain of opium, to be given every six hours.

We regret to state, however, that on the following day, there was great prostation of strength, and the poor girl died in the evening.

The particulars of this case are entered at full length in Dr. Scott's book, by Dr. Elliotson, for the information of the pupils. We trust this will shame the former gentleman from his accustomed indolent method of noting cases, which consists in making a few short-hand characters, unintelligible to every one but himself. We have before had occasion to allude to this infamous circumstance, and also to *Dormouse* Williams' manner of noting cases; we selected the following a few days since from one of his books:—*Dolor abdominis—tussis,* dijectiones iij. *per diem—dolor lat, dex.—dolor stom.—Ægrotat. menses* iij.; *has eaten nothing for many weeks!!* These are notes of cases made by a hospital physician, and, forsooth, a lecturer on the practice of physic. We shall, ere long, take an opportunity of *showing up* this gentleman's mode of practice: a little *phlebotomising* may perhaps relieve that state of stupor under which this individual always appears to labour.

FUNGOID DISEASE OF THE BREAST.—EXTIRPATION OF THE MAMMA.

The subject of this disease, a stout woman, 63 years of age, of florid complexion, was admitted into the Hospital as a patient of Mr. Tyrrell, on Thursday, July 27th.

She stated that the disease under which she laboured had existed for two years, that it first made its appearance on the outer side of the right mamma, in the form of a small moveable tumour. This went on gradually increasing for about eighteen months; but during the space of six months prior to her admission, the swelling rapidly increased in size.

Although, as stated above, the patient was of florid complexion and healthy in appearance, yet her general health, she said, was by no means good, and she had been subject to repeated attacks of severe indisposition since the period at which she ceased to menstruate; this was at about the age of fifty.

The disease of the breast presented the following characters:—The mamma very much enlarged, and of an oblong form, its greatest diameter being from side to side. About four-fifths of the swelling, when pressed upon by the finger, were found to be very firm; a moderate degree of pressure occasioned an indentation, which, however, was speedily obliterated by the elasticity of the tumour when the pressure was removed. The swelling had an irregular uneven feel; handling it even roughly occasioned little or no pain, and the patient stated that she never had experienced much pain from the disease. The integuments on the right side of the breast were discoloured, and on examining the parts the minute cutaneous veins were found to be loaded; in addition to this, there were large sub-cutaneous veins meandering over the surface of the tumour. A considerable portion of the mammary gland, situated nearest to the sternum, had a natural and healthy feel; the nipple was not retracted, nor was there any glandular enlargement in the axilla.

Mr. Tyrrell having proposed to the poor woman an operation for the removal of the disease, to which she readily consented, it was performed on Friday, August 11th.

The whole of the mammary gland was removed, by making a transverse elliptical incision through the integuments above, and another beneath. These two incisions meeting at their extremities, included the diseased mass, which was then dissected out. Several bleeding vessels were secured, and the integument

were then brought together in the usual manner.

A section was made of the tumour, and it was shewn to the pupils. It presented the ordinary characteristics of fungoid disease, but at the lower portion of the mass there were several hydatids.

In addition to the operation related above, as performed by Mr. Tyrrell, and one for popliteal aneurism by Mr. Travers on Friday, the latter removed a tumour on the same day from the leg of a female patient. It was a pendulous swelling of considerable size, attached to the inside of the calf of the leg, of twelve years standing, and had been for some time past in a state of ulceration. It was a common vascular sarcomatous tumour. Mr. Travers, with his choice phraseology, termed it *a skin tumour*.

The operation consisted simply in dissecting the tumour from its attachments at its base.

CASE OF PURULENT OPHTHALMIA, WITH SLOUGHING OF THE CORNEA.

Mary Ann Evans, ætat. 19, apparently in distressed circumstances, was admitted into the Hospital on Thursday, June 22d, on account of disease of the eyes.

She stated, that the left eye had been affected one month, and the right eye about a fortnight. The disease commenced with uneasy sensations in the parts, as heat and itching, which occasioned her to rub the eyes much; they soon after became greatly inflamed and painful to a most distressing degree. There was also intolerance of light, and a free discharge of purulent fluid from between the eye lids.

Notwithstanding the violent nature of the symptoms and the extreme state of suffering under which this young woman must necessarily have laboured, the disease was allowed to pursue its course without her seeking medical assistance.

The condition of the parts on the day after admission was as follows:—*Right eye:* The eye-lids (but more especially the upper) much swollen, and looking red externally; excessive vascularity of the tunica conjunctiva with chemosis; the cornea at its lower three fourths clear; but opaque, and of a whitish colour at its upper and outer part. The pupil of moderate size, having apparently some irregularity at its upper part, where faintly seen through the opaque portion of cornea.—*Left eye*: The conjunctiva highly injected, and thus rendered tumid, where covering the fore part of the eye, and also where lining the lids, with consequent swelling of these parts. The cornea of a dull clouded appearance throughout its whole extent; but towards the inner canthus of the eye, a considerable portion of the cornea was ash-coloured, and protruding through an opening in the centre of this deadened portion of cornea, was a small black tumour, supposed to be a part of the iris. The vision of each eye was greatly obscured, and there was a copious discharge of purulent fluid from between the lids. The patient complained of great pain and uneasiness in the parts, and there was considerable febrile excitement, with want of rest, loss of appetite, and the bowels constipated.

24. The patient was seen by Mr. Travers to-day, and the following plan of treatment was directed: *A blister to be applied to the nape of the neck, and two leeches to each temple.*

Sulphat of quinine, 2 *grains*;
Infusion of roses, 1½ *ounce*;

to be taken three times a-day. One grain of opium to be taken at bed-time, a dose of house physic immediately, and the following collyrium to be used:

Alum, 1½ *grain*;
Water, 1 *ounce*. Mix.

The patient was very minutely questioned by Mr. Travers, as to whether she had gonorrhœa, or any other vaginal discharge, but she declared she was perfectly free from disease of this nature. It appeared on further inquiry that she had been affected with itch some weeks before admission, but was cured before the attack of disease of the eyes.

(It may be proper to remark here, that the acute symptoms had in some measure subsided when the patient was admitted, and as Mr. Travers observed, the disease had already passed on to that stage which is termed *atonic*, and in which we have to contend with the consequences of acute inflammation.)

26. The eye-lids are swollen, there is now a prolapsus of the iris through the upper part of the cornea of the right eye and the prolapsus in the left eye has increased. The leeches, through the negligence of the nurse, have not been applied.

28. The prolapsus iridis in the right eye has increased since the last report; there is a small white line distinctly to be observed on the cornea, where surrounding the base of the protruded iris, and to this line red vessels may be seen passing. The lower portion of the right cornea is clear, and the pupillary margin of the iris seen through this part is regular.

In the left eye the prolapsus iridis has

not increased, and the small tumour is of a reddish colour. The upper part of the cornea appears to be in a sloughy state, and it is depressed as if a lamina of the cornea had been already removed. The left cornea is more clouded at its lower part since the patient's admission. Two leeches to be applied to each tarsus.

Nitrate of silver, 1 *grain*,
Water, 6 *drachms*;

to be dropped in each eye cautiously, omitting it if much pain be produced.

July 1. The prolapsus iridis of the right eye still greater, and the cornea apparently flattened or collapsed; the marginal line which was seen on the cornea where surrounding the protruded portion of iris, has now disappeared; the vascularity and tumid state of the conjunctiva is much the same.

In the left eye, the prolapsus of the iris continues of the same size, and it appears as if covered with a thin membrane, which is tinted with red. On using the microscope, small red vessels may be seen passing over the cornea to the tumour. The nitrate of silver was directed to be applied to the prolapsed iris of the right eye.

5. The cornea of the right eye has become more loaded since the application of the caustic, and the patient says that the power of vision in this eye is much diminished; the surface of the prolapsus in the right eye is covered with a white film. The left eye continues much the same, the conjunctival vessels are still loaded, and the whole of the cornea is so dull, that the pupil is scarcely perceptible. The lids of both eyes continue much swollen; the patient has less pain than before the application of the caustic.

8. The right eye much improved, the cornea is not so dull and loaded, and the vascularity of the conjunctiva is also lessened. The power of vision now in this eye is such, as to enable her to distinguish objects at a considerable distance; the lower portion of the pupil continues regular. The prolapsus of the iris in the left eye is diminished; the cornea, however, still continues very dull, and the power of vision in this eye is very small. Mr. Travers directed the tumour of the right eye to be again slightly pencilled with the lunar caustic.

12. Very considerable improvement; the eye-lids have now resumed their natural appearance externally, and the vascularity of the conjunctiva is fast diminishing. The vision of the right eye is tolerably good, and notwithstanding the protrusion of a considerable portion of iris at its upper part, through the cornea, the figure of the pupil below is not altered, and about three-fourths remain perfectly regular. The application of the caustic has certainly been beneficial to the right eye, the tumour being much less prominent.

22. Not much change has taken place in this case since our last report. In the left eye, the upper half of the cornea is of a white colour, and it appears at this part to have undergone so much change as to be completely spoiled; the lower half of the cornea, although differing from the upper, in not having that deadened appearance, is, however, so opaque, that the pupil can scarcely be seen through it. There is a small tubercle of iris projecting through the cornea towards the inner canthus of the left eye. With respect to the right eye, the cornea continues clear, and the power of vision is sufficient to enable the patient to read; in the left eye, vision is of course much obscured by the state of the cornea.

The belladona is now applied around each eye.

August 5. The patient still remains in the Hospital; the appearance of the parts is much the same. The prolapsus of the iris in the right eye is less; that in the left eye is very small. There is now very little increased vascularity in either eye; the application of the belladona is continued.

Mr. Green's admissions on Thursday, June 30th, consisted of cases which did not present any thing worthy of particular remark.

Mr. Tyrrell admitted the following cases into the Hospital on Thursday, July 6th.

Males.—Disease of the tibia; fistula in ano; ulcer of the leg; ditto of the finger (two); enlargement of the condyles of the femur; disease of the knee-joint; incipient amaurosis; superficial ulceration following erysipelas.

Females.—Vaginal discharge; abscess of the mamma; lateral curvature of the spine; disease of the toe.

There has been no operation performed at this Hospital of late.